



**Minnesota Pollution  
Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

# MS4 SWPPP Application for Reauthorization

for the NPDES/SDS General Small Municipal Separate  
Storm Sewer System (MS4) Permit MNR040000  
reissued with an effective date of August 1, 2013  
Stormwater Pollution Prevention Program (SWPPP) Document

Doc Type: Permit Application

**Instructions:** This application is for authorization to discharge stormwater associated with Municipal Separate Storm Sewer Systems (MS4s) under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Permit Program. **No fee** is required with the submittal of this application. Please refer to "Example" for detailed instructions found on the Minnesota Pollution Control Agency (MPCA) MS4 website at <http://www.pca.state.mn.us/ms4>.

**Submittal:** This MS4 SWPPP Application for Reauthorization form must be submitted electronically via e-mail to the MPCA at [ms4permitprogram.pca@state.mn.us](mailto:ms4permitprogram.pca@state.mn.us) from the person that is duly authorized to certify this form. All questions with an asterisk (\*) are required fields. All applications will be returned if required fields are not completed.

**Questions:** Contact Claudia Hochstein at 651-757-2881 or [claudia.hochstein@state.mn.us](mailto:claudia.hochstein@state.mn.us), Dan Miller at 651-757-2246 or [daniel.miller@state.mn.us](mailto:daniel.miller@state.mn.us), or call toll-free at 800-657-3864.

## General Contact Information (\*Required fields)

### MS4 Owner (with ownership or operational responsibility, or control of the MS4)

\*MS4 permittee name: City of Elk River \*County: Sherburne  
(city, county, municipality, government agency or other entity)

\*Mailing address: 13065 Orono Parkway

\*City: Elk River \*State: MN \*Zip code: 55330

\*Phone (including area code): (763) 635-1000 \*E-mail: JFemrite@ElkRiverMN.gov

### MS4 General contact (with Stormwater Pollution Prevention Program [SWPPP] implementation responsibility)

\*Last name: Femrite \*First name: Justin  
(department head, MS4 coordinator, consultant, etc.)

\*Title: City Engineer

\*Mailing address: 13065 Orono Parkway

\*City: Elk River \*State: MN \*Zip code: 55330

\*Phone (including area code): (763) 635-1051 \*E-mail: JFemrite@ElkRiverMN.gov

### Preparer information (complete if SWPPP application is prepared by a party other than MS4 General contact)

Last name: Alms First name: Bill  
(department head, MS4 coordinator, consultant, etc.)

Title: WSB & Associates

Mailing address: 701 Xenia Ave South Suite 300

City: Minneapolis State: MN Zip code: 55416

Phone (including area code): (763) 231-4845 E-mail: walms@wsbeng.com

## Verification

1. I seek to continue discharging stormwater associated with a small MS4 after the effective date of this Permit, and shall submit this MS4 SWPPP Application for Reauthorization form, in accordance with the schedule in Appendix A, Table 1, with the SWPPP document completed in accordance with the Permit (Part II.D.). ☒ Yes
2. I have read and understand the NPDES/SDS MS4 General Permit and certify that we intend to comply with all requirements of the Permit. ☒ Yes

## Certification (All fields are required)

---

- ☒ Yes - I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted.

*I certify that based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.*

*I am aware that there are significant penalties for submitting false information, including the possibility of civil and criminal penalties.*

This certification is required by Minn. Stat. §§ 7001.0070 and 7001.0540. The authorized person with overall, MS4 legal responsibility must certify the application (principal executive officer or a ranking elected official).

By typing my name in the following box, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing my application.

Name: Justin Femrite  
(This document has been electronically signed)

Title: City Engineer Date (mm/dd/yyyy): 11/25/2013

Mailing address: 13065 Orono Parkway

City: Elk River State: MN Zip code: 55330

Phone (including area code): 763-635-1051 E-mail: jfemrite@elkrivernm.gov

**Note:** The application will not be  
processed without certification.

# Stormwater Pollution Prevention Program Document

## I. Partnerships: (Part II.D.1)

- A. List the **regulated small MS4(s)** with which you have established a partnership in order to satisfy one or more requirements of this Permit. Indicate which Minimum Control Measure (MCM) requirements or other program components that each partnership helps to accomplish (List all that apply). Check the box below if you currently have no established partnerships with other regulated MS4s. If you have more than five partnerships, hit the tab key after the last line to generate a new row.

☐ No partnerships with regulated small MS4s

Name and description of partnership	MCM/Other permit requirements involved
Sherburne County; Partner with Sherburne County (Zoning Administration, Public Works, and SWCD) for providing educational opportunities/materials, illicit discharge detection, and maintaining county ditch system throughout the City.	MCM 1, 3, 6

- B. If you have additional information that you would like to communicate about your partnerships with other regulated small MS4(s), provide it in the space below, or include an attachment to the SWPPP Document, with the following file naming convention: *MS4NameHere\_Partnerships*.

## II. Description of Regulatory Mechanisms: (Part II.D.2)

### Illicit discharges

- A. Do you have a regulatory mechanism(s) that effectively prohibits non-stormwater discharges into your small MS4, except those non-stormwater discharges authorized under the Permit (Part III.D.3.b.)? ☒ Yes ☐ No

1. If **yes**:

- a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):

☒ Ordinance ☐ Contract language  
☐ Policy/Standards ☐ Permits  
☐ Rules  
☐ Other, explain: \_\_\_\_\_

- b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

Citation:

*City Code: Chapter 30 -> Article VII -> Sec. 30-2174.(b). Illicit discharges and connections*

Direct link:

*<http://library.municode.com/index.aspx?clientId=13427&stateId=23&stateName=Minnesota>*

☐ Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere\_IDDEreg*.

2. If **no**:

Describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date

permit coverage is extended, this permit requirement is met:

### Construction site stormwater runoff control

- A. Do you have a regulatory mechanism(s) that establishes requirements for erosion and sediment controls and waste controls? ☒ Yes ☐ No

1. If **yes**:

- a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):

- ☒ Ordinance ☐ Contract language  
☒ Policy/Standards ☒ Permits  
☐ Rules  
☐ Other, explain: Building Permit - Erosion Protection Maintenance Memorandum

- b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

Citation:

*City Code: Chapter 30 -> Article V -> Sec. 30-416. Excavation, grading and erosion control.*

*City Code: Chapter 30 -> Article VII -> Sec. 30-2174.(d). Industrial or construction activity discharges*

*City Code: Sec. Chapter 30 -> Article VII -> 30-2174.(3).Construction and building site activity*

*City of Elk River Design Standards*

*Building Permit - Erosion Protection Maintenance Memorandum*

Direct link:

<http://library.municode.com/index.aspx?clientId=13427&stateId=23&stateName=Minnesota>

<http://elkrivermn.gov/DocumentCenter/View/223>

- ☒ Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere\_CSWreg.*

- B. Is your regulatory mechanism at least as stringent as the MPCA general permit to Discharge Stormwater Associated with Construction Activity (as of the effective date of the MS4 Permit)? ☐ Yes ☒ No

If you answered **yes** to the above question, proceed to C.

If you answered **no** to either of the above permit requirements listed in A. or B., describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

*The City's construction site stormwater runoff control regulatory mechnaism will be updated to be at least as stringent as the MPCA CSW permit. This effort will completed within 12 months of the date permit coverage is extended.*

- C. Answer **yes** or **no** to indicate whether your regulatory mechanism(s) requires owners and operators of construction activity to develop site plans that incorporate the following erosion and sediment controls and waste controls as described in the Permit (Part III.D.4.a.(1)-(8)), and as listed below:

- |  |   |
|--|---|
| 1. Best Management Practices (BMPs) to minimize erosion.   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 2. BMPs to minimize the discharge of sediment and other pollutants.  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 3. BMPs for dewatering activities.   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 4. Site inspections and records of rainfall events   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 5. BMP maintenance   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 6. Management of solid and hazardous wastes on each project site.  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 7. Final stabilization upon the completion of construction activity, including the use of perennial vegetative cover on all exposed soils or other equivalent means. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 8. Criteria for the use of temporary sediment basins.  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

*City Code: Chapter 30 -> Article V -> Sec. 30-416.(n) requires owners and operators of a construction activity to*

## Post-construction stormwater management

A. Do you have a regulatory mechanism(s) to address post-construction stormwater management activities?

☒ Yes ☐ No

1. If **yes**:

a. Check which *type* of regulatory mechanism(s) your organization has (check all that apply):

- ☒ Ordinance ☐ Contract language  
☒ Policy/Standards ☐ Permits  
☐ Rules  
☐ Other, explain: \_\_\_\_\_

b. Provide either a direct link to the mechanism selected above or attach it as an electronic document to this form; or if your regulatory mechanism is either an Ordinance or a Rule, you may provide a citation:

Citation:

*City Code: Chapter 30 -> Article V -> Sec. 30-416. Excavation, grading and erosion control.*

*City Code : Chapter 30 -> Article VII -> Sec. 30-2175. Post construction stormwater management*

*City of Elk River Design Standards*

Direct link:

<http://library.municode.com/index.aspx?clientId=13427&stateId=23&stateName=Minnesota>

☒ Check here if attaching an electronic copy of your regulatory mechanism, with the following file naming convention: *MS4NameHere\_PostCSWreg.*

B. Answer **yes** or **no** below to indicate whether you have a regulatory mechanism(s) in place that meets the following requirements as described in the Permit (Part III.D.5.a.):

1. **Site plan review:** Requirements that owners and/or operators of construction activity submit site plans with post-construction stormwater management BMPs to the permittee for review and approval, prior to start of construction activity. ☒ Yes ☐ No

2. **Conditions for post construction stormwater management:** Requires the use of any combination of BMPs, with highest preference given to Green Infrastructure techniques and practices (e.g., infiltration, evapotranspiration, reuse/harvesting, conservation design, urban forestry, green roofs, etc.), necessary to meet the following conditions on the site of a construction activity to the Maximum Extent Practicable (MEP):

a. For new development projects – no net increase from pre-project conditions (on an annual average basis) of: ☐ Yes ☒ No

- 1) Stormwater discharge volume, unless precluded by the stormwater management limitations in the Permit (Part III.D.5.a(3)(a)).
- 2) Stormwater discharges of Total Suspended Solids (TSS).
- 3) Stormwater discharges of Total Phosphorus (TP).

b. For redevelopment projects – a net reduction from pre-project conditions (on an annual average basis) of: ☐ Yes ☒ No

- 1) Stormwater discharge volume, unless precluded by the stormwater management limitations in the Permit (Part III.D.5.a(3)(a)).
- 2) Stormwater discharges of TSS.
- 3) Stormwater discharges of TP.

3. **Stormwater management limitations and exceptions:**

a. Limitations

- 1) Prohibit the use of infiltration techniques to achieve the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)) when the infiltration structural stormwater BMP will receive discharges from, or be constructed in areas: ☐ Yes ☒ No
  - a) Where industrial facilities are not authorized to infiltrate industrial stormwater under an NPDES/SDS Industrial Stormwater Permit issued by the MPCA.
  - b) Where vehicle fueling and maintenance occur.
  - c) With less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of

- bedrock.
- d) Where high levels of contaminants in soil or groundwater will be mobilized by the infiltrating stormwater.
- 2) Restrict the use of infiltration techniques to achieve the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)), without higher engineering review, sufficient to provide a functioning treatment system and prevent adverse impacts to groundwater, when the infiltration device will be constructed in areas:
- a) With predominately Hydrologic Soil Group D (clay) soils.
  - b) Within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features.
  - c) Within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, subp. 13.
  - d) Where soil infiltration rates are more than 8.3 inches per hour.
- 3) For linear projects where the lack of right-of-way precludes the installation of volume control practices that meet the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)), the permittee's regulatory mechanism(s) may allow exceptions as described in the Permit (Part III.D.5.a(3)(b)). The permittee's regulatory mechanism(s) shall ensure that a reasonable attempt be made to obtain right-of-way during the project planning process.
4. **Mitigation provisions:** The permittee's regulatory mechanism(s) shall ensure that any stormwater discharges of TSS and/or TP not addressed on the site of the original construction activity are addressed through mitigation and, at a minimum, shall ensure the following requirements are met:
- a. Mitigation project areas are selected in the following order of preference:
    - 1) Locations that yield benefits to the same receiving water that receives runoff from the original construction activity.
    - 2) Locations within the same Minnesota Department of Natural Resource (DNR) catchment area as the original construction activity.
    - 3) Locations in the next adjacent DNR catchment area up-stream
    - 4) Locations anywhere within the permittee's jurisdiction.
  - b. Mitigation projects must involve the creation of new structural stormwater BMPs or the retrofit of existing structural stormwater BMPs, or the use of a properly designed regional structural stormwater BMP.
  - c. Routine maintenance of structural stormwater BMPs already required by this permit cannot be used to meet mitigation requirements of this part.
  - d. Mitigation projects shall be completed within 24 months after the start of the original construction activity.
  - e. The permittee shall determine, and document, who will be responsible for long-term maintenance on all mitigation projects of this part.
  - f. If the permittee receives payment from the owner and/or operator of a construction activity for mitigation purposes in lieu of the owner or operator of that construction activity meeting the conditions for post-construction stormwater management in Part III.D.5.a(2), the permittee shall apply any such payment received to a public stormwater project, and all projects must be in compliance with Part III.D.5.a(4)(a)-(e).
5. **Long-term maintenance of structural stormwater BMPs:** The permittee's regulatory mechanism(s) shall provide for the establishment of legal mechanisms between the permittee and owners or operators responsible for the long-term maintenance of structural stormwater BMPs not owned or operated by the permittee, that have been implemented to meet the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)). This only includes structural stormwater BMPs constructed after the effective date of this permit and that are directly connected to the permittee's MS4, and that are in the permittee's jurisdiction. The legal mechanism shall include provisions that, at a minimum:
- a. Allow the permittee to conduct inspections of structural stormwater BMPs not owned or operated by the permittee, perform necessary maintenance, and assess costs for those structural stormwater BMPs when the permittee determines that the owner and/or operator of that structural stormwater BMP has not conducted maintenance.
  - b. Include conditions that are designed to preserve the permittee's right to ensure maintenance responsibility, for structural stormwater BMPs not owned or operated by the permittee, when those responsibilities are legally transferred to another party.
  - c. Include conditions that are designed to protect/preserve structural stormwater BMPs and site features that are implemented to comply with the Permit (Part III.D.5.a(2)). If site configurations or structural stormwater BMPs change, causing decreased structural stormwater BMP effectiveness, new or improved structural stormwater BMPs must be

implemented to ensure the conditions for post-construction stormwater management in the Permit (Part III.D.5.a(2)) continue to be met.

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within twelve (12) months of the date permit coverage is extended, these permit requirements are met:

*B.2.a, B.2.b. Amend current post-construction stormwater ordinance and City Design Standards, which includes goals for reducing post-development TSS and TP loading on an annual basis, to include volume-control and be more consistent with permit language for new and redevelopment sites. The City Engineer will draft these amendments they will be placed on the City Council's meeting agenda for approval within 12 months following the date permit coverage is extended.*

*B.3.a.1: The City will amend the ordinance and City Design Standards to include prohibiting the use of infiltration techniques for post-construction stormwater management as described in the Permit (PartIII.D.5.a(3)(a).1). The ordinance will be amended on the same schedule as the items in B.2.a and B.2.b.*

*B.3.a.2: The City will amend the ordinance and City Design Standards to include restricting the use of infiltration techniques for post-construction stormwater management as described in the Permit (PartIII.D.5.a(3)(a).2). This will occur on the same schedule as the items above.*

*B.3.a.3: The City will amend the ordinance and City Design Standards to include the exceptions for linear projects as described in the Permit (PartIII.D.5.a(3)(b)). This will occur on the same schedule as the items above.*

*B.4.a.: The City will amend the ordinance and City Design Standards to include order of preference for selecting mitigation project areas as described in the Permit (PartIII.D.5.a(4)(a)). This will occur on the same schedule as the items above.*

*B.4.b.: The City will amend the ordinance and City Design Standards to include requirements for the creation of mitigation projects as described in the Permit (PartIII.D.5.a(4)(b)). This will occur on the same schedule as the items above.*

*B.4.c.: The City will amend the ordinance and City Design Standards to include the restriction from using routine maintenance of structural BMPs to meet the requirements for mitigation projects as described in the Permit (PartIII.D.5.a(4)(c)). This will occur on the same schedule as the items above.*

*B.4.d.: The City will amend the ordinance and City Design Standards to include the requirement to complete mitigation projects within 24 months after the start of the original construction activity as described in the Permit (PartIII.D.5.a(4)(d)). This will occur on the same schedule as the items above.*

*B.4.f.: The City will amend the ordinance and City Design Standards to mandate that money received from an owner/operator of construction activity, in lieu of meeting the conditions for post-construction stormwater management, shall be used for a public stormwater project as described in the Permit (PartIII.D.5.a(4)(f)). This will occur on the same schedule as the items above.*

*B.5.b.: The City will amend the ordinance and City Design Standards to include conditions that require maintenance responsibility for structural stormwater BMPs through transfer of ownership as described in the Permit (PartIII.D.5.a(5)(b)). This will occur on the same schedule as the items above.*

*B.5.c.: The City will amend the ordinance and City Design Standards to include conditions to address BMP modification in the future as described in the Permit (PartIII.D.5.a(5)(c)). This will occur on the same schedule as the items above.*

### III. Enforcement Response Procedures (ERPs): (Part II.D.3)

A. Do you have existing ERPs that satisfy the requirements of the Permit (Part III.B.)? ☒ Yes ☐ No

1. If **yes**, attach them to this form as an electronic document, with the following file naming convention: *MS4NameHere\_ERPs*.
2. If **no**, describe the tasks and corresponding schedules that will be taken to assure that, with twelve (12) months of the date permit coverage is extended, these permit requirements are met:

B. Describe your ERPs:

<http://library.municode.com/index.aspx?clientId=13427&stateId=23&stateName=Minnesota>

*The current ERPs are included in the following City Codes: Section 30-416.(r) Penalties for Violation of Excavation, grading, and erosion control, Section 30-416; Enforcement of Stormwater Management including illicit Discharges.*

*The City Code includes the following enforcement mechanisms:*

- Notice of Violation
- Public Nuisance

- Misdemeanors
- Stop work orders

#### IV. Storm Sewer System Map and Inventory: (Part II.D.4.)

A. Describe how you manage your storm sewer system map and inventory:

*New developments are required to provide electronic as-build data in accordance with the GIS Information Requirements located in the City Design Standard. The City GIS specialist or a consultant updates and maintains all of the City's GIS Information.*

B. Answer **yes** or **no** to indicate whether your storm sewer system map addresses the following requirements from the Permit (Part III.C.1.a-d), as listed below:

1. The permittee's entire small MS4 as a goal, but at a minimum, all pipes 12 inches or greater in diameter, including stormwater flow direction in those pipes. ☒ Yes ☐ No
2. Outfalls, including a unique identification (ID) number assigned by the permittee, and an associated geographic coordinate. ☒ Yes ☐ No
3. Structural stormwater BMPs that are part of the permittee's small MS4. ☒ Yes ☐ No
4. All receiving waters. ☒ Yes ☐ No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

C. Answer **yes** or **no** to indicate whether you have completed the requirements of 2009 Minnesota Session Law, Ch. 172. Sec. 28: with the following inventories, according to the specifications of the Permit (Part III.C.2.a.-b.), including:

1. All ponds within the permittee's jurisdiction that are constructed and operated for purposes of water quality treatment, stormwater detention, and flood control, and that are used for the collection of stormwater via constructed conveyances. ☒ Yes ☐ No
2. All wetlands and lakes, within the permittee's jurisdiction, that collect stormwater via constructed conveyances. ☒ Yes ☐ No

D. Answer **yes** or **no** to indicate whether you have completed the following information for each feature inventoried.

1. A unique identification (ID) number assigned by the permittee. ☐ Yes ☒ No
2. A geographic coordinate. ☒ Yes ☐ No
3. Type of feature (e.g., pond, wetland, or lake). This may be determined by using best professional judgment. ☐ Yes ☒ No

If you have answered **yes** to all above requirements, and you have already submitted the Pond Inventory Form to the MPCA, then you do not need to resubmit the inventory form below.

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

*D.1. The City GIS specialist will update the storm sewer map to include a unique identification number for each stormwater feature inventoried as described in the Permit (Part III.C.2.b.).*

*D.3. The City GIS specialist will update the storm sewer map to include a type of feature for each stormwater feature inventoried as described in the Permit (Part III.C.2.b.).*

E. Answer **yes** or **no** to indicate if you are attaching your pond, wetland and lake inventory to the MPCA on the form provided on the MPCA website at: <http://www.pca.state.mn.us/ms4>, according to the specifications of Permit (Part III.C.2.b.(1)-(3)). Attach with the following file naming convention: *MS4NameHere\_inventory*. ☐ Yes ☒ No

If you answered **no**, the inventory form must be submitted to the MPCA MS4 Permit Program within 12 months of the date permit coverage is extended.

#### V. Minimum Control Measures (MCMs) (Part II.D.5)

##### A. MCM1: Public education and outreach

1. The Permit requires that, within 12 months of the date permit coverage is extended, existing permittees revise their education and outreach program that focuses on illicit discharge recognition and reporting, as well as other specifically



selected stormwater-related issue(s) of high priority to the permittee during this permit term. Describe your **current** educational program, including **any high-priority topics included**:

*The City of Elk River is comprised of a mix of commercial business districts, established and new residential developments, and agriculture land uses. Therefore the educational focus rotates through residential issues, construction activities, and illicit discharges around commercial business districts. When able the City partners with Sherburne County SWCD to provide education to its residents. Newsletter distributed to residents includes stormwater section discussing proper practices for activities such as fall yard practices and winter deicing. The City has a stormwater page on the website to communicate stormwater-related messages.*

- List the categories of BMPs that address your public education and outreach program, including the distribution of educational materials and a program implementation plan. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the U.S. Environmental Protection Agency's (EPA) *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>).

**If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Education Activity Implementation Plan</i>	<i>Complete new or review previous year's outline of education activity implementation program and implementation schedule for the upcoming permit year by June 30th.</i>
<i>City Stormwater Information Link</i>	<i>The City updates their web page to include water resource related issues. The City has been updating its webpage with additional water resource related information since March 2005.</i>
<i>Meeting with Gravel Miners, Building Contractors, Developers, and Excavators</i>	<i>Hold meetings as needed to inform these professionals of stormwater related issues specific to Mining, Construction and Excavation as appropriate.</i>
<i>Meetings with Educational Professionals</i>	<i>Work with Sherburne County Zoning, the Soil &amp; Water Conservation District, Watershed Partners, Stormwater Steering Committee, and Water Resource Coordinators Group to make effective use of stormwater education programs as appropriate.</i>
<i>Presentations to City Council</i>	<i>Report on yearly NPDES regulations and activities in Annual Report, urban stormwater impacts to water bodies, current SWPPP status during an annual presentation each year of permit cycle. Additionally provide a specific review of SWPPP when considering zoning request.</i>
<i>City Staff Meetings</i>	<i>Provide a presentation at City Department meetings to generate Staff awareness of SWPPP regulations and to develop projects with appropriate BMPs applied within the first 12 months of permit extension and as needed thereafter.</i>
<i>Citizen Survey</i>	<i>In the spring of year 1 send out a written survey in a random sample of mailings. They survey will gauge each selected household's practices related to the topic that will be featured in the following fall's brochure. This will help the City understand what topics are important to the Community.</i>
<i>Newsletter</i>	<i>Published stormwater pollution prevention related article in the Annual Newsletter to spread awareness of stormwater related issues.</i>
<i>Cable Access Channel</i>	<i>Annually broadcasted stormwater related information over the Cable Access Channel.</i>
BMP categories to be implemented	Measurable goals and timeframes

- Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

*City Engineer / Environmental Coordinator*

## **B. MCM2: Public participation and involvement**

- The Permit (Part III.D.2.a.) requires that, within 12 months of the date permit coverage is extended, existing permittees

shall revise their current program, as necessary, and continue to implement a public participation/involvement program to solicit public input on the SWPPP. Describe your current program:

*An opportunity to hear comments on the SWPPP is provided each year during an annual meeting held in combination with a City Council Meeting.*

- List the categories of BMPs that address your public participation/involvement program, including solicitation and documentation of public input on the SWPPP. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/hpdes/pubs/measurablegoals.pdf>). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Follow applicable public notice requirement</i>	<i>Provide public notice of meeting to provide input on the SWPPP in accordance with City public hearing notification requirements.</i>
<i>Annual Meeting</i>	<i>Hold annual public meeting combined with City Council Meeting or other public participation/involvement event to solicit public input on the SWPPP</i>
<i>Community Reporting Options and Documentation Procedures</i>	<i>Residents can provide comments to City through the "Community Voice" link located on the City's Webpage. The City will add one high priority topic identified in MCM1 annually to the initiatives section on the "Community Voice" page.</i> <i>IT department will provide a link on City webpage to report Illicit Discharges. This will allow the city to document number of reports received from City Webpage and responses to citizen reports of illicit discharges.</i> <i>These updates will be completed within 12 months following the date permit coverage is extended.</i>
BMP categories to be implemented	Measurable goals and timeframes
<i>Online Availability of Stormwater Pollution Prevention Program Document</i>	<i>Provide an electronic document of Stormwater Pollution Prevention Program document online within 12 months following the date permit coverage is extended.</i>

- Do you have a process for receiving and documenting citizen input? ☒ Yes ☐ No

If you answered **no** to the above permit requirement, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, this permit requirement is met:

- Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

*City Engineer / Environmental Coordinator*

### C. MCM 3: Illicit discharge detection and elimination

- The Permit (Part III.D.3.) requires that, within 12 months of the date permit coverage is extended, existing permittees revise their current program as necessary, and continue to implement and enforce a program to detect and eliminate illicit discharges into the small MS4. Describe your current program:

*The City has an ordinance that prohibits illicit discharges and connections. City Staff and public works employees are trained to look for any signs of an illicit discharge while on the job. ERPs (attached) guide what actions the City can take after an illicit discharge has been identified.*

- Does your Illicit Discharge Detection and Elimination Program meet the following requirements, as found in the Permit (Part III.D.3.c.-g.)?
  - Incorporation of illicit discharge detection into all inspection and maintenance activities conducted under the Permit (Part III.D.6.e.-f.) Where feasible, illicit discharge inspections shall be conducted during dry-weather conditions (e.g., periods of 72 or more hours of no precipitation). ☒ Yes ☐ No
  - Detecting and tracking the source of illicit discharges using visual inspections. The permittee may also include use of mobile cameras, collecting and analyzing water samples, and/or other detailed procedures that may be effective investigative tools. ☒ Yes ☐ No
  - Training of all field staff, in accordance with the requirements of the Permit (Part III.D.6.g.(2)), in ☒ Yes ☐ No

illicit discharge recognition (including conditions which could cause illicit discharges), and reporting illicit discharges for further investigation.

- d. Identification of priority areas likely to have illicit discharges, including at a minimum, evaluating land use associated with business/industrial activities, areas where illicit discharges have been identified in the past, and areas with storage of large quantities of significant materials that could result in an illicit discharge. ☒ Yes ☐ No
- e. Procedures for the timely response to known, suspected, and reported illicit discharges. ☒ Yes ☐ No
- f. Procedures for investigating, locating, and eliminating the source of illicit discharges. ☒ Yes ☐ No
- g. Procedures for responding to spills, including emergency response procedures to prevent spills from entering the small MS4. The procedures shall also include the immediate notification of the Minnesota Department of Public Safety Duty Officer, if the source of the illicit discharge is a spill or leak as defined in Minn. Stat. § 115.061. ☒ Yes ☐ No
- h. When the source of the illicit discharge is found, the permittee shall use the ERPs required by the Permit (Part III.B.) to eliminate the illicit discharge and require any needed corrective action(s). ☒ Yes ☐ No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

3. List the categories of BMPs that address your illicit discharge, detection and elimination program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>).

If you have more than five categories, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Storm Sewer System Mapping</i>	<i>The City GIS storm sewer system map is updated as needed to reflect changes made to system features such as ponds, streams, lakes, wetlands, structural pollution control devices, pipes, and outfalls. The existing City GIS Map will be updated as required by Part III.C.1 within 12 months following the date permit coverage is extended.</i>
<i>Illicit Discharge Detection and Elimination (IDDE) and Enforcement Ordinance</i>	<i>The City developed an ordinance to prohibit non-stormwater discharge into the stormwater system. The City will review the ordinance annually to ensure that it continues to meet the needs of the City and legal requirements.</i>
<i>Illicit Discharge Detection and Elimination (IDDE) Program</i>	<i>The City's IDDE program has been established to detect and eliminate illegal and/or improper connections to storm sewer drainage system and receiving waters. Measurable Goals for this program include:</i> <ul style="list-style-type: none"> <li><i>Maintain a list of illicit connections test performed to date within the City</i></li> <li><i>Identify and prioritize future illicit connection assessment sites</i></li> <li><i>Conduct field testing of existing storm sewer system and document length of sewer and number of sites inspected</i></li> </ul> <i>After detection of illicit discharge, the City will utilize proper enforcement procedures and enforce the provisions of the City ordinance pertaining to illegal discharges.</i>
<i>Public &amp; Employee IDDE Information Program</i>	<i>Conduct educational seminar and distribute educational material annually to educate the Public and City Employees about the hazards associated with illicit discharges.</i>
<i>Identification of Non Stormwater Discharges &amp; Flows</i>	<i>City employees are trained how to identify illicit discharges and what corrective measures should be taken for those discharges identified as being significant contributors of pollutants.</i>
BMP categories to be implemented	Measurable goals and timeframes
<i>IDDE Program Updates</i>	<i>Update written procedures for illicit discharge inspections, investigations, and response actions. Develop a process to document information as described in the Permit (Part III.3.h)</i>

	<i>within 12 months following the date permit coverage is extended..</i>
<i>Illicit Discharge Inspections</i>	<i>Annually inspect locations identified as high-priority outfalls and around high-risk establishments (fast food restaurants, dumpster, car washes, mechanics, and oil changes.)</i>
<i>Illicit Discharge Investigation</i>	<i>As needed hire a consultant to televise a section of the sewer system, collect grab samples or perform other effective testing procedures to find illicit connection in the system.</i>

4. Do you have procedures for record-keeping within your Illicit Discharge Detection and Elimination (IDDE) program as specified within the Permit (Part III.D.3.h.)? ☐ Yes ☒ No

If you answered **no**, indicate how you will develop procedures for record-keeping of your Illicit Discharge, Detection and Elimination Program, within 12 months of the date permit coverage is extended:

*C.4., The City will develop written procedures for receiving, documenting and storing citizen input as described in the permit (Part III.D.3.h). Procedures will be in place within 12 months following the date permit coverage is extended.*

5. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

*City Engineer / Street Superintendent*

#### **D. MCM 4: Construction site stormwater runoff control**

1. The Permit (Part III.D.4) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement and enforce a construction site stormwater runoff control program. Describe your current program:

*The City requires review of construction site erosion and sediment control (ESC) plans before projects begin, and work with contractors to ensure appropriate and correct use of erosion and sediment control BMPs on sites. The building inspection department is primarily responsible for checking compliance with construction site ESC plans. The City has created an erosion control handout, which explains how to properly install and maintain erosion control BMPs. The handout is attached to the building permit application.*

2. Does your program address the following BMPs for construction stormwater erosion and sediment control as required in the Permit (Part III.D.4.b.):

- a. Have you established written procedures for site plan reviews that you conduct prior to the start of construction activity? ☒ Yes ☐ No
- b. Does the site plan review procedure include notification to owners and operators proposing construction activity that they need to apply for and obtain coverage under the MPCA's general permit to *Discharge Stormwater Associated with Construction Activity No. MN R100001*? ☒ Yes ☐ No
- c. Does your program include written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted by the public to the permittee? ☐ Yes ☒ No
- d. Have you included written procedures for the following aspects of site inspections to determine compliance with your regulatory mechanism(s):
  - 1) Does your program include procedures for identifying priority sites for inspection? ☐ Yes ☒ No
  - 2) Does your program identify a frequency at which you will conduct construction site inspections? ☐ Yes ☒ No
  - 3) Does your program identify the names of individual(s) or position titles of those responsible for conducting construction site inspections? ☐ Yes ☒ No
  - 4) Does your program include a checklist or other written means to document construction site inspections when determining compliance? ☐ Yes ☒ No
- e. Does your program document and retain construction project name, location, total acreage to be disturbed, and owner/operator information? ☒ Yes ☐ No
- f. Does your program document stormwater-related comments and/or supporting information used to determine project approval or denial? ☒ Yes ☐ No
- g. Does your program retain construction site inspection checklists or other written materials used to document site inspections? ☐ Yes ☒ No

If you answered **no** to any of the above permit requirements, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met.

*D.2.c., The City will develop written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted by the public as described in the Permit (Part III.D.4.c). Procedures will be in place within 12 months following the date permit coverage is extended.*

*D.2.d., City will develop written procedures for conducting site ESC inspections as described in the Permit (Part III.D.4.d). Procedures will be in place within 12 months following the date permit coverage is extended.*

D.2.g., City will develop written procedures for retaining documents of site ESC inspections as described in the Permit (Part III.D.4.d). Procedures will be in place within 12 months following the date permit coverage is extended.

3. List the categories of BMPs that address your construction site stormwater runoff control program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Construction Site Stormwater Runoff Ordinance</i>	<i>Construction Site Stormwater Runoff Ordinance to prohibit construction site stormwater runoff was approved in June 2007. An erosion and sediment control section of the Design Standards division of the City Platting ordinance was updated in February 2013.</i>
<i>Construction Site Plan Review</i>	<i>City Engineering Staff utilizes MPCA the construction and sediment control checklist from Appendix D of the Current SWPPP for review of NPDES Erosion Control Permits submitted to the department for review.</i>
<i>Erosion Protection Maintenance Memo to Builders</i>	<i>An erosion control handout, which explains how to properly install a silt fence and other erosion control BMPs is given to the application when a building permit is picked up.</i>
BMP categories to be implemented	Measurable goals and timeframes
<i>Permit Update</i>	<i>Update the City Grading, Building, and ROW permits, Construction Site Stormwater Runoff ordinance, and written procedures to meet the new permit requirements within 12 months following the date permit coverage is extended</i>
<i>Prioritize Inspections</i>	<i>Ensure at least 10% of inspections conducted annually are performed at deemed high priority sites (e.g., near sensitive receiving waters, projects larger than 5 acres)</i>
<i>Permit Application System</i>	<i>Develop written procedures to track and archive all plan review and inspection documents within 12 months following the date permit coverage is extended.</i>

4. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

*City Engineer*

## E. MCM 5: Post-construction stormwater management

1. The Permit (Part III.D.5.) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement and enforce a post-construction stormwater management program. Describe your current program:

*The City has a post-construction sotrmwater management ordinance to encourage the utilization of BMPs for stormwater runoff from new and redevelopment projects, as well as to ensure the maintenance and operation of the stormwater BMPs.*

2. Have you established written procedures for site plan reviews that you will conduct prior to the start of construction activity? ☒ Yes ☐ No
3. Answer **yes** or **no** to indicate whether you have the following listed procedures for documentation of post-construction stormwater management according to the specifications of Permit (Part III.D.5.c.):
  - a. Any supporting documentation that you use to determine compliance with the Permit (Part III.D.5.a), including the project name, location, owner and operator of the construction activity, any checklists used for conducting site plan reviews, and any calculations used to determine compliance? ☐ Yes ☒ No
  - b. All supporting documentation associated with mitigation projects that you authorize? ☐ Yes ☒ No
  - c. Payments received and used in accordance with Permit (Part III.D.5.a.(4)(f))? ☐ Yes ☒ No
  - d. All legal mechanisms drafted in accordance with the Permit (Part III.D.5.a.(5)), including date(s) of the agreement(s) and names of all responsible parties involved? ☐ Yes ☒ No



If you answered **no** to any of the above permit requirements, describe the steps that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met.

*E.3., The City will develop written procedures for documentation of post-construction stormwater management as described in the Permit (Part III.D.5.c.). Procedures will be in place within 12 months following the date permit coverage is extended.*

4. List the categories of BMPs that address your post-construction stormwater management program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. Refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>). **If you have more than five categories**, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Site Plan Review Program</i>	<i>Completed plan review process and documentation procedures for sites qualifying as a land disturbance in accordance with definition set in the City Ordinance. City Engineering Staff utilizes the SWPPP Review Checklist from Appendix C of the Current SWPPP for review of Stormwater Management Plans submitted to the department for review.</i>
<i>Encourage the use of structural and non-structural BMPs during review of new and redevelopment projects</i>	<p><u>Structural</u>  <i>The City will review and revise (if necessary, during the plan review process) permanent BMP designs and criteria for post-construction storm water management associated with new development and redevelopment projects of one acre or more. The City will also consider the implementation of low impact development practices if prudent and feasible. The City will annually review and revise (if necessary) the current policies, requirements, and Best Management Practices specific to structural BMP's.</i></p> <p><u>Non-Structural</u>  <i>The City may also improve the condition of parks, wetlands, and watersheds when the opportunity arises. Potential wetland restorations, water quality monitoring, native plantings, bank stabilization, detention and infiltration ponds, and other best management construction projects will continue to be actively pursued by the City when the opportunity arises.</i></p>
<i>Stabilization Seeding</i>	<i>The City requires all exposed ground areas to be landscaped with grass, shrubs, trees, or other living ornamental landscape materials. When observed, the City documents violations of seeding provisions and records types of enforcement actions taken.</i>
<i>Outlet Structure Stabilization</i>	<i>The City requires outlet structure stabilization within the standard specification for construction including but not limited to tie-rods, stabilization seeding, and class IV-V riprap. The City will continue to include this BMP during construction and document the number of structures stabilized.</i>
<i>Land Development Ordinance</i>	<i>Completed ordinance revision in 2007 including illicit discharges, erosion and sediment control at construction sites, and post construction runoff from new development and redevelopment</i>
<i>Stormwater Management Plan</i>	<i>Completed SWMP for Elk River in 2013 and ensured goals and policies were consistent with the NPDES General and Construction Permits.</i>
BMP categories to be implemented	Measurable goals and timeframes
<i>Update ordinance to meet new permit requirements</i>	<i>Complete Ordinance updates including illicit discharges, erosion and sediment control at construction sites, and post construction runoff from new development and redevelopment Within 12 months of extension of permit coverage.</i>
<i>Update Written Procedures for Site Plan Review</i>	<i>Update site plan review procedures that must be completed</i>

	<i>prior to the start of construction activity to meet the new permit requirements within 12 months of extension of permit coverage.</i>
<i>Document Pertinent Project Information</i>	<i>Maintain all related documents pertaining to each new or redevelopment project in more user-friendly filing system for better records management. Implement within 12 months.</i>

5. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

*City Engineer*

## F. MCM 6: Pollution prevention/good housekeeping for municipal operations

1. The Permit (Part III.D.6.) requires that, within 12 months of the date permit coverage is extended, existing permittees shall revise their current program, as necessary, and continue to implement an operations and maintenance program that prevents or reduces the discharge of pollutants from the permittee owned/operated facilities and operations to the small MS4. Describe your current program:

*The City currently inspects its structural pollution control devices on an annual basis and inspects all of its outfalls, sediment basins and ponds every 5 years. The City inspects stockpiles, storage and material handling areas at the maintenance yard for potential discharges and maintenance of BMPs. The City is evaluating the use of road salt for winter road maintenance activities to reduce chlorides entering the City's water resources. The City sweeps streets once in the fall after leaf drop. Maintenance staff is trained annually on various topics related to pollution prevention during maintenance activities.*

2. Do you have a facilities inventory as outlined in the Permit (Part III.D.6.a.)? ☐ Yes ☒ No
3. If you answered **no** to the above permit requirement in question 2, describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, this permit requirement is met:

*F.3., The City will complete a facilities inventory as described in the Permit (Part III.D.6.a.). Inventory will be completed within 12 months following the date permit coverage is extended.*

4. List the categories of BMPs that address your pollution prevention/good housekeeping for municipal operations program. Use the first table for categories of BMPs that you have established and the second table for categories of BMPs that you plan to implement over the course of the permit term.

Include the measurable goals with appropriate timeframes that each BMP category will be implemented and completed. In addition, provide interim milestones and the frequency of action in which the permittee will implement and/or maintain the BMPs. For an explanation of measurable goals, refer to the EPA's *Measurable Goals Guidance for Phase II Small MS4s* (<http://www.epa.gov/npdes/pubs/measurablegoals.pdf>).

If you have more than five categories, hit the tab key after the last line to generate a new row.

Established BMP categories	Measurable goals and timeframes
<i>Park and Open Space Training Program</i>	<i>Training program is reviewed and updated (if needed) annually and focuses on fertilizer application, pesticide/herbicide application, and mowing discharge.</i>
<i>Fleet and Building Maintenance Training Program</i>	<i>Training program is reviewed and updated (if needed) annually and focuses on automotive maintenance program (automotive inspections and washing), spill cleanup training, hazardous materials training, building leak prevention and inspection training.</i>
<i>Stormwater Systems Maintenance Training Program</i>	<i>Training program is reviewed and updated (if needed) annually and focuses on parking lot and street cleaning, storm drain systems cleaning, road salt materials management</i>
<i>Parking Lots &amp; Street Cleaning</i>	<i>Train employees and document number of times each street is swept annual. Goal is 2 times per year.</i>
<i>Road Salt Materials Management Program</i>	<i>Document amount of salt applied each year and train employees in road salt management and application rates annually.</i>
<i>Storm Sewer Inspection Program</i>	<i>Conduct one inspection of all City-owned ponds and outfalls prior to expiration date of this permit</i> <i>Annual inspection of 100% of structural pollution control devices (Sumps, Water Quality Manholes, etc.)</i>
<i>Evaluate Inspection Frequency</i>	<i>Evaluate inspection records and determine if inspection</i>

	<i>frequency needs to increase or decrease.</i>
<b>BMP categories to be implemented</b>	<b>Measurable goals and timeframes</b>
<i>Structural Stormwater BMP Maintenance Program</i>	<i>Based on storm sewer inspection findings determine if repair, replacement, or maintenance measures are necessary to ensure structures proper function and treatment effectiveness. Document annually number or structures repaired or scheduled for maintenance.</i>
<i>Spill Prevention &amp; Control Plans for Municipal Facilities</i>	<i>Ensure that plans describing spill prevention and control procedures are consistent among all departments. Conduct annual spill prevention and response training sessions to all municipal employees. Distribute education materials to each municipal facility by the end of year 2.</i>
<i>Maintenance Yard Inspections</i>	<i>Quarterly perform maintenance yard inspections utilizing a checklist for the inspection. Develop checklist format that allows staff to compare results to previous inspections within 12 months following the date permit coverage is extended.</i>
<i>Facility Inventory</i>	<i>Update facilities inventory to include potential pollutants as each site and create a map of all identified facilities within 12 months following the date permit coverage is extended.</i>
<i>Pond Assessment Procedures &amp; Schedule</i>	<i>In year 1, develop procedures for determining TSS and TP treatment effectiveness of city owned ponds use for treatment of stormwater. Implement schedule in year 2-5</i>

5. Does discharge from your MS4 affect a Source Water Protection Area (Permit Part III.D.6.c.)? ☒ Yes ☐ No

a. If **no**, continue to 6.

b. If **yes**, the Minnesota Department of Health (MDH) is in the process of mapping the following items. Maps are available at <http://www.health.state.mn.us/divs/eh/water/swp/maps/index.htm>. Is a map including the following items available for your MS4:

1) Wells and source waters for drinking water supply management areas identified as vulnerable under Minn. R. 4720.5205, 4720.5210, and 4720.5330? ☒ Yes ☐ No

2) Source water protection areas for surface intakes identified in the source water assessments conducted by or for the Minnesota Department of Health under the federal Safe Drinking Water Act, U.S.C. §§ 300j – 13? ☐ Yes ☒ No

c. Have you developed and implemented BMPs to protect any of the above drinking water sources? ☒ Yes ☐ No

6. Have you developed procedures and a schedule for the purpose of determining the TSS and TP treatment effectiveness of all permittee owned/operated ponds constructed and used for the collection and treatment of stormwater, according to the Permit (Part III.D.6.d.)? ☐ Yes ☒ No

7. Do you have inspection procedures that meet the requirements of the Permit (Part III.D.6.e.(1)-(3)) for structural stormwater BMPs, ponds and outfalls, and stockpile, storage and material handling areas? ☐ Yes ☒ No

8. Have you developed and implemented a stormwater management training program commensurate with each employee's job duties that:

a. Addresses the importance of protecting water quality? ☒ Yes ☐ No

b. Covers the requirements of the permit relevant to the duties of the employee? ☒ Yes ☐ No

c. Includes a schedule that establishes initial training for new and/or seasonal employees and recurring training intervals for existing employees to address changes in procedures, practices, techniques, or requirements? ☐ Yes ☒ No

9. Do you keep documentation of inspections, maintenance, and training as required by the Permit (Part III.D.6.h.(1)-(5))? ☐ Yes ☒ No

If you answered **no** to any of the above permit requirements listed in **Questions 5 – 9**, then describe the tasks and corresponding schedules that will be taken to assure that, within 12 months of the date permit coverage is extended, these permit requirements are met:

*F.5.b.(2) No source water protection area for surface intakes identified in the source water assessments.*

*F.6. The City will develop a procedure for assessing ponds to determine TSS and TP effectiveness as described in the*



*Permit (Part III.D.6.d) This study will develop procedures for determining TSS and TP treatment effectiveness of city-owned ponds used for treatment of stormwater. A schedule will be implemented in years 2 thru 5.*

*F.7., The City will develop written procedures for inspection of structural stormwater BMPs, ponds and outfalls, and stockpile, storage and material handling areas as described in the Permit (Part III.D.6.f.). Procedures will be in place within 12 months following the date permit coverage is extended.*

*F.8., The City will develop and implement a stormwater management training program commensurate with each employees job duties as described in the Permit (Part III.D.6.g.). Procedures will be in place within 12 months following the date permit coverage is extended.*

*F.9., The City will develop written procedures to document inspections, maintenance, and training as described in the Permit (Part III.D.6.h.). Procedures will be in place within 12 months following the date permit coverage is extended.*

10. Provide the name or the position title of the individual(s) who is responsible for implementing and/or coordinating this MCM:

*City Engineer / Street Superindendant*

## **VI. Compliance Schedule for an Approved Total Maximum Daily Load (TMDL) with an Applicable Waste Load Allocation (WLA) (Part II.D.6.)**

- A. Do you have an approved TMDL with a Waste Load Allocation (WLA) prior to the effective date of the Permit? ☐ Yes ☒ No

1. If **no**, continue to section VII.

2. If **yes**, fill out and attach the MS4 Permit TMDL Attachment Spreadsheet with the following naming convention: *MS4NameHere\_TMDL*.

This form is found on the MPCA MS4 website: <http://www.pca.state.mn.us/ms4>.

## **VII. Alum or Ferric Chloride Phosphorus Treatment Systems (Part II.D.7.)**

- A. Do you own and/or operate any Alum or Ferric Chloride Phosphorus Treatment Systems which are regulated by this Permit (Part III.F.)? ☐ Yes ☒ No

1. If **no**, this section requires no further information.

2. If **yes**, you own and/or operate an Alum or Ferric Chloride Phosphorus Treatment System within your small MS4, then you must submit the Alum or Ferric Chloride Phosphorus Treatment Systems Form supplement to this document, with the following naming convention: *MS4NameHere\_TreatmentSystem*.

This form is found on the MPCA MS4 website: <http://www.pca.state.mn.us/ms4>.

## **VIII. Add any Additional Comments to Describe Your Program**



# CITY OF ELK RIVER DESIGN STANDARDS

JANUARY 1998  
REVISED JANUARY 2003  
REVISED MARCH 2006

BDM Consulting Engineers, PLC  
4175 Lovell Road, Suite 112  
Lexington, Minnesota 55014  
Phone: (763) 786-4570  
Fax: (763) 786-4574

# INDEX

TITLE PAGE	
INDEX .....	i
GENERAL .....	G - 1
DESIGN STANDARDS	
SECTION 2000 – STREET DESIGN STANDARDS .....	2000 – 1
STANDARD PLATES	
2000 – Surmountable and B618 Concrete Curb and Gutter	
2001 – Concrete "V" Gutter	
2002 – Depressed Curb with Driveway Apron	
2003 – Pedestrian Curb Ramps for Sidewalks	
2004 – Pedestrian Curb Ramps for Trails	
2005 – Catch Basin Frame Placement Surmountable Curb and Gutter	
2006 – Match Existing Bituminous Surfacing	
2007 – Rural Driveway Entrance	
2008 – Mail Box	
2009 – Erosion Control Detail	
2010 – Typical Street Section	
2011 – Bituminous Trail Typical Section	
2012 – Park Boundary Sign Installation Instructions	
2013 – Cul-de-sacs with Internal Islands	
SECTION 2500 – STORM DRAINAGE DESIGN STANDARDS .....	2500 - 1
STANDARD PLATES	
2500 – Shallow Catch Basin	
2501 – Standard Manhole	
2502 – Slab Top Manhole	
2503 – Concrete Pipe Joint Ties	
2504 – Trash Guard	
2505 – Rip-Rap Installation	
2506 – Standard Manhole Casting	
2507 – Standard Inlet Casting	
2509 – Grate Casting	
2510 – Catch Basin Sedimentation Barrier	
2511 – Typical Stormwater Pond Section	
2512 – Inlet Protection for Catch Basin	
SECTION 3400 – WATERMAIN DESIGN STANDARDS .....	3400 – 1
STANDARD PLATES	
3400 – Typical Water Layout	
3401 – Pacer Hydrant Detail	
3402 – Hydrant Restraint Detail	

- 3403 – Typical Service Detail/Curb Stop in Sidewalk Detail
- 3404 – Watermain Crossing
- 3405 – Class C Pipe Bedding
- 3406 – Class B Pipe Bedding
- 3407 – Pipe Insulation Detail
- 3408 – Valve Tracer Wire Detail

SECTION 4000 – SANITARY SEWER DESIGN STANDARDS .....4000 – 1  
 STANDARD PLATES

- 4000 – Standard Manhole
- 4001 – Slab Top Manhole
- 4002 – Inside Drop Manhole (Two Feet or Less)
- 4003 – Inside Drop Manhole
- 4004 – Outside Drop Manhole
- 4005 – Standard Air Relief Manhole
- 4006 – Class B Pipe Bedding
- 4007 – Typical House Service
- 4008 – Service Riser Section

SECTION GIS – GIS INFORMATION REQUIREMENTS ..... GIS – 1

ELK RIVER AS-BUILT REVIEW CHECKLIST

DEVELOPMENT PLAN REQUIREMENTS

ELK RIVER STORM SEWER POLLUTION PREVENTION PLAN (SWPPP)

SWPPP GENERAL REQUIREMENTS

SWPPP PROJECT SPECIFIC REQUIREMENTS

APPENDIX A – STANDARD PLATES

APPENDIX B – MN/DOT SEED MIXES

APPENDIX C – STORMWATER POLLUTION PREVENTION  
 PLAN REVIEW CHECKLIST

APPENDIX D – CONSTRUCTION EROSION AND  
 SEDIMENT CONTROL CHECKLIST

ITEMS NEEDED TO START UTILITY CONSTRUCTION

## GENERAL

These design standards are intended to provide general requirements of the City of Elk River for the purpose of public improvements. This document does not contain all City requirements, but rather provides guidelines as to types of materials and design practices. The City of Elk River will review each proposed improvement project individually for compliance with these design standards, current City ordinances, City of Elk River general specifications, and general engineering practice. The City of Elk River reserves the right to modify these design standards and to require more stringent requirements on any public improvement. The City of Elk River general specifications are available upon request.

END OF GENERAL SECTION

SECTION 2000  
STREET DESIGN STANDARDS

A. DESIGN CRITERIA

1. Minimum street grade of 0.50%, maximum street grade of 8.00% in accordance with City ordinance. Rural street sections require a minimum grade of 0.75% within 100 feet of low points.
2. Minimum grade for circumference of cul-de-sac is 0.50%.
3. Maximum slope of approach grade tangent at street intersections of 1.00% for 100 feet from the edge of the cross street.
4. Intersection radii of 20 feet to back-of-curb.
5. Cul-de-sac entrance radii of 35 feet to back-of-curb.
6. Vertical curves shall meet a 30 mile per hour design speed for sight distance.
7. Crest vertical curves shall have a minimum A.D. of 1.5; grade breaks shall be used otherwise.
8. Cul-de-sacs shall have a diameter of 90 feet, face-of-curb to face-of-curb.
9. Local residential streets may have 28" surmountable curb in accordance with Standard Plate 2000. All other urban streets shall have B618 curb and gutter. B618 curb and gutter shall be constructed at all radii and catch basins with a ten-foot transition from surmountable curb to B618 curb and gutter.
10. Street pavement sections shall be designed in accordance with City Standards for Residential Streets. All other roads shall be designed for 9-ton or 10-ton loading according to soils in accordance with Minnesota Department of Transportation Standards. Minimum pavement sections shall be:

Residential Streets	6" Aggregate Base, Class 5 3½" Bituminous (Two Lifts) 2" Non-wear Course Mixture (LVNW35030B) 1½" Wear Course Mixture (MVWE45035B)
---------------------	---

9-Ton	8" Aggregate Base, Class 5 3½" Bituminous (Two Lifts) 2" Non-wear Course Mixture (LVNW35030B) 1½" Wear Course Mixture (MVWE45035B)
-------	---

11. Cul-de-sac streets shall not exceed 700 feet from the center of the intersection to the center of the cul-de-sac.
12. Islands placed in cul-de-sacs shall meet the dimensions shown on Standard Plate 2013.
13. Street width shall be 32 feet face of curb to face of curb.
14. All urban commercial or industrial zoned streets and all urban collector and arterial streets shall have a six-foot wide concrete sidewalk on one side. Other streets shall have concrete sidewalk as directed by the City Council. Concrete sidewalk shall be located one foot from the property line.
15. All sidewalks in new developments to be 6" thick to allow for future driveway locations.
16. Temporary turnarounds with concrete curb and gutter shall be constructed at all dead-end streets, which provide access to adjacent lots. Temporary turnarounds behind concrete curb and gutter will not be allowed.
17. Driveways shall have a maximum grade of 10.0%.
18. Bituminous trails shall be constructed as directed by the City Council. Trails shall be 10-feet in width. The trail includes 6" of common excavation, 4" of class 5 aggregate base, 2" of type 2350 wearing course bituminous (LVWE45035B), and seeding 4' wide on both sides. Seeding includes seed mixture, fertilizer, mulch, and wood fiber blanket. The constructed trail should have a tight finish with minimal voids. Depending on the site, conditions may warrant different construction techniques and typical section. All trails are subject to approval by the City Engineer.
19. Concrete pedestrian ramps shall be constructed at all locations where the trail connects to a street having concrete curb and gutter, with the exception of rural areas. Pedestrian curb ramps shall be constructed with a red colored detectable warning (truncated dome type) panel. See Standard Plate 2003 for details. A sample of the truncated dome panel shall be provided to the City for approval prior to construction. Plastic panels are not acceptable.
20. Street signs, including regulatory and street names, shall be installed in new developments by the developer per City sign standards. Street signs shall match City approved street names. "No Outlet" plates shall be installed along with street name signs where appropriate.
21. "Eyebrow" cul-de-sacs will not be allowed.

22. During curb placement, the curb-top shall be marked with an "S" or "W" to signify the location of the sanitary sewer or water service.
  - A. The locations where the sanitary sewer service and the water service cross the curb line for each lot shall be permanently marked in the concrete of the curb top by an "S" (1½" x 3½") or a "W" (4¼" x 3½"). The stamps to mark the letters must be borrowed from the City.
  - B. The locations of the sanitary sewer and water service shall be marked by stakes at the time of staking of the curb. This must be completed prior to commencement of the curb pour.
  - C. After the service stakes are placed the Contractor may borrow the stamps from the City. Stamps shall be returned to the City immediately following the curb pour. The Contractor will be responsible for the cost to repair or replace any stamp damaged while under their control.
23. Park boundary signs shall be installed by the developer in accordance with Standard Plate 2012.
24. Retaining walls are generally not allowed within the City right-of-way. Retaining walls must be reviewed and approved by the City Engineer and the following:
  - A. Must conform to an engineered design if less than 4 feet in height (exposed face).
  - B. Must be specifically designed for the site by a Licensed Professional Engineer if greater than 4 feet in height.
  - C. Must have fence or railing if greater than 4 feet in height.

## B. MATERIALS

1. Street name sign specifications  
Street signs shall be E-450 SC/AL flat 0.080 aluminum plate single faced with 3M™ High Intensity Grade Reflective Sheeting with screened white on green 6" series "C" letters on signs 42" or less in length and 6" series "B" letters on signs over 42". Plates shall be 9" wide by 36" or longer in length. All letters shall be capitalized.

Street names shall be approved by the City before ordering street signs. Signs indicating numerical avenues should end in NW and signs indicating named streets should not include the NW.

Plates shall be notched to fit an E-450 bracket with a 5/8" square tie rod extending approximately 7/8" into post cap welded with ornamental tap nut and a 16-gauge center clip with a star hole permitting placement of plates at 90°, 45° or parallel to each other. Stacking of street name plates should not exceed 3 plates.



Street sign brackets shall be mounted on a 12-foot long galvanized tubular post, 2-3/8" outside diameter and a wall thickness of 0.080" set in a 6" diameter 2-foot deep concrete footing.

2. No Outlet sign specifications  
No Outlet signs shall be E-450 SC/AL flat 0.080 aluminum plate single faced with 3M™ High Intensity Grade Reflective Sheeting with screened black on yellow 6" series "C" letters on signs 42" on a plate 9" x 36". The sign shall include a black border with the lettering NO OUTLET and a directional arrow. The No Outlet signs will be placed on the bottom of the street name stack and the stack should not be taller than a 3 plate maximum.
3. Stop sign specifications  
Stop signs (R1-1) shall be 0.080 aluminum plate with 3M™ High Intensity Grade Reflective Sheeting, 30" x 30", mounted on an 8-foot long, 3 pound per foot channel post bolted to a 5' long, 3 pound per foot channel post stub that is driven into the ground a minimum of 2½ feet. At intersections with street signs and stop sign, the stop sign shall be mounted on the street signpost.
4. Street name signs other than the above specification require approval by Mr. Phil Hals, City Street Superintendent. (763-635-1120)
5. An approved supplier for the above-specified signs is:

Earl F. Andersen, Inc.  
9808 James Circle  
Bloomington, MN 55431  
Attn: Rick Donahue or John Egan  
Phone: 952-884-7300  
Fax: 952-884-5619  
Toll-Free: 1-800-862-6026  
Web Page: [www.efa-mn.com](http://www.efa-mn.com)

END OF SECTION 2000

## SECTION 2500 STORM DRAINAGE DESIGN STANDARDS

### A. DESIGN CRITERIA

1. Storm drainage analysis shall consider the downstream effects to the limits of the receiving water. Easements shall be obtained/given to the receiving waters.
2. Minor drainage facilities shall carry the 10-year recurrence runoff flows. Minor facilities include street gutter capacity, cross-culverts, storm sewers, and swales to the limits of easement and/or right-of-way.
3. Emergency overflows shall be provided for all street low points and ponding areas. Emergency overflow swales shall be constructed to provide one foot of freeboard between overflow elevations and the lowest opening or floor elevation of any residences or structures used for public, commercial, or industrial purposes. Overflow swales shall be directed along drainage easements.
4. Design hydrology can be the rational method or Soil Conservation Service (National Resources Conservation Service) methods. Other methods may be used with prior approval. The rational method cannot be used for volume or hydrograph calculations. Pond design must be completed using a time step/increment model with the SCS/NRCS method.
5. Drainage designs cannot create a hardship for downstream properties.
6. Sedimentation basins and wet extended detention ponds shall be designed in accordance with "The Minnesota Stormwater Manual – November 2005" as published by the MPCA, particularly Chapter 12.6, Stormwater Ponds. All sedimentation basins and detention ponds shall be accessible for maintenance through a 10-foot easement from a public right-of-way to and around the basin at the 100-year High Water Level. Berms surrounding the basin should be a minimum of 10 feet wide at the top with a maximum cross slope of 2% to allow access for maintenance. See Standard Plate 2511.
7. Storm water ponds with outlets shall be sized to detain the 100-year 24-hour recurrence storm event with 1.0-foot freeboard while maintaining outflow requirements. Storm water ponds without outlets shall be sized to hold the greater of 100-year 24-hour, 10-day snow melt or back-to-back 100-year, 24-hour recurrence storm events with 1.0 foot. Storm water ponds will be reviewed by the City Engineer on a case-by-case basis. Easements will be required to the high water level as determined.

8. Storm water pond side slopes shall be 4:1 above and below the normal water line with a 10-foot bench at 10:1 slopes provided at the normal water level.
9. Total post development off-site discharge for a given storm event shall be less than or equal to total off-site discharge for predeveloped conditions. Any excess shall be detained on site.
10. Drainage facilities for major storms (100-year, 24 hour recurrence interval) shall provide at least one foot of freeboard from the high water level to the lowest opening or floor elevation of any residences or structures used for public, commercial, or industrial purposes.
11. Erosion control shall be in accordance with the "The Minnesota Stormwater Manual" as published by the MPCA.
12. The minimum storm sewer size shall be 15 inches in diameter. Twelve-inch diameter storm sewer may be used for catch basin leads.
13. The minimum culvert size shall be 15 inches in diameter.
14. Driveway culverts shall have adequate length to allow 4 horizontal to 1 vertical side slopes for the driveway.
15. Culverts shall be placed at or up to 0.2 feet below the ditch flowline.
16. Culverts located within County or State right-of-way shall be provided with safety aprons and grates with a maximum slope of 6 to 1. Marking posts shall be installed in accordance with the County or Mn/DOT permit.
17. Minimum full flow velocities for storm sewers shall be 2.5 fps.
18. Storm sewer and culvert outlets shall be designed to prevent erosion. Rip-rap and aprons shall be placed to/below normal water level of the receiving body of water.
19. The 100-year high water level shall be labeled on Plans for all wetland and ponding areas.
20. Rear yard inlets shall be reviewed by the City Engineer on a case-by-case basis.
21. Drainage swales shall have a minimum slope of 1.00%.
22. Storm manholes shall be designed to provide 0.10-foot drop from inlet to outlet pipe, match 8/10<sup>th</sup> points of inlet and outlet pipes, or match inlet and outlet pipe crowns.

23. Submerged outlets are generally acceptable provided hydraulic grade line calculations are provided to confirm pipe sizing. Submerged outlets will be reviewed on a case-by-case basis by the City Engineer.
24. The minimum orifice diameter on the pond outlet control structures is 4 inches.

**B. MATERIALS**

1. Pipe for all storm sewer installations shall be reinforced concrete pipe. Reinforced circular pipe shall conform to ASTM C 76 for Wall B pipe. Reinforced Arch pipe shall conform to ASTM C 506.
2. Standard curb inlet castings shall be Neenah R-3067-V or approved equal. In developments with surmountable curb, the curb at catch basin inlets shall typically transition to a B-type curb as shown on Standard Plate 2005. When inlet castings do not align with a property line and surmountable concrete curb and gutter is being placed, inlet castings may be Neenah R-3501-TB provided written approval is obtained from the City prior to construction.
3. Rip-rap shall be Class IV random rip-rap in accordance with Mn/DOT 2511 except that all rip-rap shall be made up of granite. Placement of rip-rap shall be as shown on Standard Plate 2505.
4. Rear yard inlets shall utilize a Neenah R-1733 casting with a type C grate. Ditch inlet castings shall be R-4341-A or R-4342.

END OF SECTION 2500

## SECTION 3400 WATERMAIN DESIGN STANDARDS

### A. DESIGN CRITERIA

1. The minimum size of watermain shall be 8 inches. (Hydrant leads can be 6").
2. Watermain pipe shall be ductile iron in accordance with AWWA C151.
3. The minimum bury depth of watermain shall be 7' - 6" to top of pipe.
4. The minimum size of water service lines and corporations shall be 1 inch. Three-quarter inch by 1-inch corporations may be used when tapping mainlines. Water service pipe shall be Type K, seamless copper water tubing, soft annealed temper and conform to the requirements of ASTM B 88. When water service lines exceed 200-feet, the service line and corporation shall be 1½".
5. No dead-end mains shall be constructed, all watermains shall be looped.
6. Water looping outside of the Right of Way shall be HDPE, valved at each end with no connection/services in between.
7. HDPE watermain shall have location tracer wire placed with it. The location wire shall be 8-gauge plastic jacket type TW or THW. Splices shall be made using 3M cast kits and shall not occur more frequently than one per 250 feet of pipe.  
  
Tracer wires shall run up along the outside of the valve box and be threaded through a hole in the top part of the valve box drilled for that purpose. See Standard Plate 3408.
8. Temporary dead-end mains shall be equipped with a fire hydrant for flushing purposes.
9. Hydrants shall be spaced so that all portions of a building or residence to be protected are within a 250 foot radius of a hydrant. (Final review will be made by the Fire Chief and City Engineer)
10. Each hydrant lead shall be equipped with a resilient seated valve for shut-off purposes and installed in accordance with the standard detail.
11. Valves shall be placed throughout the distribution system so that each portion may be isolated with the least interruption of service. Valves shall be placed at each roadway intersection or the intersection of watermains. (Final review will be made by the Water Superintendent and City Engineer)

12. The design shall be in accordance with the Minnesota Department of Health and Ten State Standards.
13. A "Hydrafinder" locating device shall be installed on each hydrant installed and shall be mounted on the upper flange of the hydrant with a straight mounting bracket as indicated in Elk River Standard Plate 3401. For every five hydrant locating devices installed, one extra hydrant locating device shall be delivered to the Elk River Municipal Utilities.
14. All hydrants and leads shall be restrained from the main to the hydrant through the use of threaded rods or Megalug restraint glands in accordance with the standard detail plates. Concrete and timber thrust blocking will not be allowed.
15. To allow the hydrant to drain after use, the hydrant bottom shall be surrounded by Coarse Filter Aggregate (Mn/DOT 3149.2H) or  $\frac{3}{4}$ " –  $1\frac{1}{2}$ " clear drain rock covered with plastic material as indicated on Standard Plate 3402.

#### B. MATERIALS

1. The materials used in this work shall be new, conforming with the requirements of the referenced specifications for class, kind, type, size, and grade of material as specified below and other details indicated in the contract.

At the request of the Engineer, The Contractor shall submit in writing a list of materials and suppliers for approval.

2. "Hydrafinder" hydrant locating devices, as manufactured by RoDon Corporation, shall be five feet in length and furnished with a "flat" steel mounting bracket and the MIL SPEC spring mount.
3. Pipe bends and fittings requiring restraining devices shall be restrained with Series 1100 Megalug mechanical joint restraint fittings as manufactured by EBBA Iron, Inc. or equal.
4. All watermain valves shall be operated only by Elk River Municipal Utility forces. The contact person for this coordination is Dave Berg (Phone (763) 635-1361)

Valve boxes shall be  $5\frac{1}{4}$ " diameter shaft suitable for 7'-6" of cover over the top of the watermain. Boxes shall be cast iron screw type two piece boxes with the word "WATER" on the lid. Valve boxes shall be Tyler 6850 with  $5\frac{1}{4}$ " Drop Lid, or equal.

- A. Valve Box Extension Stem: Provide each gate valve with a one or two piece shaft, adjustable extension stem. Extension stem shall be provided with a coupling for use with non-rising stem valves. Extension stem shall be supported at the upper end by a solid centering plate. Length of extension stem shall bring the top of the square wrench nut to within six to twelve inches from the top of the valve box lid. Non-rising extension stem shall be Mueller A-26441, or equal. Extension stem shall be manufactured by Mueller or approved equal.
  - B. All valve boxes shall be installed upon the valve with the use of a Gate Valve Adaptor as manufactured by Adaptor Inc. or approved equal. The adaptor shall be considered incidental to the valve box installation.
  - C. Valve boxes shall have a 1/8" diameter (minimum) hole drilled in the upper section just below the lid housing. This is to allow tracer wire to be threaded from the outside to the inside of the valve so an end of the wire can be left in the valve for connection when necessary.
- 5. Six inch to 12-inch valves shall be resilient seated gate valves. Valves larger than 12-inch shall be butterfly valves.
  - 6. Corporation stops, as manufactured by Ford, shall be Catalog No. FB600 Ballcorp Corporation Stops for each respective water service diameter.

END OF SECTION 3400

SECTION 4000  
SANITARY SEWER DESIGN STANDARDS

A. DESIGN CRITERIA

1. Sanitary sewer design shall conform to the latest edition of the Ten State Standards.
2. Sanitary sewer extensions shall consider each residence to include 3.3 people on the average.
3. Sewage flow design rates shall be 100 gallons per person per day.
4. Minimum flow velocities for sanitary sewer shall be 2.5 fps; maximum flow velocities shall be 10.0 fps.
5. Commercial and industrial developments shall consider design flows on a case by case basis.
6. All sanitary sewer extensions shall be laid as low as practical to minimize the need for future lift stations.
7. Connections to existing sanitary sewer manholes shall be core drilled and fitted with watertight elastometric rubber boots.
8. All drop sanitary sewer manholes over two feet shall be constructed as outside drops; inside drops will not be allowed.
9. Sanitary sewer manholes shall be located on street centerline whenever possible. When manholes are not located on centerline, a station/offset shall be shown on the Plans to ensure that manholes are not located within wheelpaths.
10. Sanitary sewer manholes will not be allowed in rear or side yards.
11. Sanitary sewer manholes shall have a 1-foot section under the cone.
12. Sanitary sewer services shall not be extended from manholes.
13. Sanitary sewer manholes shall be provided with a minimum 0.10 foot drop from inlet to outlet pipe.



## B. MATERIALS

1. Pipe and fittings for non-pressure gravity sewers and services shall conform to the requirements of ASTM D 1784 and D 3034, or ASTM F 789 and D 3034, and have push-on joints with elastometric gaskets, as follows:
  - A. SDR 35 for depths up to 18-ft
  - B. SDR 26 for depths 18-ft to 30-ft
  - C. Ductile Iron Pipe, as specified below, for depths greater than 30-ft.
2. Pipe and fittings for pressure forcemains shall conform to the requirements of ASTM D 1784 and the following supplementary provisions:
  - A. For pipes 12" in diameter and smaller, the pipe, fittings and accessories shall be C900 and have a minimum dimension ratio (DR) of 18 corresponding to a working pressure of 150 psi. For pipes 14" in diameter and larger, the pipe, fittings and accessories shall be C905 and have a minimum dimension ratio (DR) of 25 corresponding to a working pressure of 165 psi.
  - B. Joints shall be push-on type with elastometric gaskets.
  - C. Forcemain pipe shall have location tracer wire placed with it. Location wire shall be 8-gauge plastic jacket type TW or THW. Splices shall be made using 3M cast kits and shall not occur more frequently than one per 250 feet of pipe.
3. All ductile iron pipe shall conform to the requirements of AWWA C 151 (ANSI A21.51) and as follows:
  - A. CL 52 for depths 30-ft to 60-ft
  - B. CL 54 for depths greater than 60-ft
4. For service pipe placed at a depth of 30 feet or greater, the pipe material shall match the mainline pipe as called for in item B3 above. Service pipe placed shallower than 30 feet of depth shall be SDR 26.

## C. LIFT STATION

1. Site
  - A. Drainage – The top slab of the wet well and valve vault should be set high enough to allow drainage away from the lift station structure.
  - B. Access – Where practical, an access driveway that is 12' wide x 20' long should be provided for the lift station.

C. A hydrant should be located within 50 feet of the lift station. The purpose of the hydrant is primarily for watering the grass around the station.

D. A streetlight should be located as close to the lift station as possible.

2. General Configuration

The plan must indicate the proposed location of the Control Panel which is subject to approval by the Wastewater Superintendent.

3. Structures

A. Minimum Size – 72” is to be a minimum diameter for both the wet well and valve vault. Depending on the size of the pumps, the wet well may need to be larger.

B. The bottom of the valve vault is to be provided with 4” of slope across the vault to the drain outlet. The drain line should exit the valve vault horizontally through the wall instead of vertically through the floor. A backflow check valve needs to be installed on the drain line to prevent backflow of water and gas from the wet well to the valve vault. A trap should also be located in the drain line as a back up to the check valve for preventing gas flow back into the vault.

C. All pipe work and fittings shall be contained within the valve manhole. Short-radius 90 degree bends and tee should be use.

D. A 4-inch drain with grate from the valve manhole to the lift station shall be provided. A threaded Zurn Z-509 outlet and Zurn Z-1099 ball float type backwater valve or approved equal is required.

E. The vent pipe for the wet well needs to be cast into the concrete top slab.

4. Access Hatch

A. Minimum Size – 30” x 48”

B. Access hatch frames should be angle frame-type with hasp and staple for a padlock.

5. Piping and Valves

A. Resilient wedge gate valves and the external lever and weight type check valves should be supplied.

6. Pumps

- A. Acceptable pump manufacturers shall be KSB.
- B. A lifting hook or approved equal should be provided for pulling the pumps.

7. Controls and Control Panel

- A. Simple Floats and Relays should be specified for small stations.
- B. Floats should be hanging type – not anchored.
- C. Five Floats should be provided (include low level alarm float).
- D. Run-time meters (1/4" minimum size) – hour meters, no minute meters.
- E. Control Panels are to be stainless steel.
- F. Light in panel should be porcelain incandescent lamp.
- G. A reel strobe light alarm with buzzer shall be included on top of the control panel with reset switch. The reset switch shall be located inside the control panel. A battery backup with charger shall be provided for the alarms.
- H. No alarm horn should be included with the panels.
- I. Use tape type heaters in the panel.
- J. Auto Dialer – In the lift station panel design, leave a 16" x 20" space for the auto dialer box to be installed by the Elk River Municipal Utilities. The Contractor or Developer is responsible for coordinating the location and installation with Elk River Municipal Utilities.
- K. A non-GFI outlet needs to be included for the auto dialer on the very back side of panel.
- L. Magnetic fasteners for the inside dead-front panel shall be supplied.

D. INDIVIDUAL SEWAGE TREATMENT SYSTEMS

- 1. Individual Sewage Treatment Systems (ISTS, "septic tank" or on-site systems) shall be designed by an ISTS professional in accordance with the requirements of the "Minnesota Pollution Control Agency Individual Sewage Treatment Systems," Minnesota Rules Chapter 7080.

2. Only Standard Systems will be allowed.
3. As part of the design a soils investigation of the site shall be completed. A minimum of two feasible locations for the ISTS drainfield shall be shown on the site plan. The primary and secondary drainfield locations shall be protected during construction from vehicle traffic or other activity that might compress the soils and create problems for the system.
4. Cluster Systems will be reviewed on a case-by-case basis. The attached On-Site Systems Information form must be submitted along with the design data for the Cluster System.

END OF SECTION 4000

### On-Site Systems Information

Development	_____	
Development name	_____	
Contact person	_____	
Phone number	_____	
System design company	_____	
Contact person	_____	
Phone number	_____	
System design on file in Building and Zoning (Y/N)	_____	Total housing units _____
Design to include details beyond drainfield?	_____	
System type	_____	
MPCA permit required? (Y/N)	_____	Permit number _____
System design flow (gpd)	_____	Maximum number of bedrooms per dwelling _____
System designed for garbage disposals? (Y/N)	_____	
Tanks required? (Y/N)	_____	Minimum size of tanks _____
Type of tanks	_____	
Allowed alternates	_____	
Special filtering system? (Y/N)	_____	Filter system type _____
Size of pump	_____	Brand of specific pump required? (Y/N) _____
Interior or exterior alarm?	_____	
Wasteline type and size	_____	
Well separation distance from tank	_____	Well separation distance from wasteline _____

Drainfield start up date \_\_\_\_\_

Monitoring company name \_\_\_\_\_

Contact person \_\_\_\_\_

Phone number \_\_\_\_\_

Emergency repair  
contractor name \_\_\_\_\_

Phone number \_\_\_\_\_

Association contact person \_\_\_\_\_

Phone number \_\_\_\_\_

## SECTION GIS GIS INFORMATION REQUIREMENTS

### A. INTRODUCTION

All developments that are constructed are required to submit electronic data based on as-built information in addition to hard copies of the as-builts. The information will be used to update the City of Elk River's GIS map. The required electronic data consists of:

1. As-built record drawings of each plan sheet. The as-built drawings shall conform to the attached "Checklist for Elk River as-built review." Drawing files shall be in Tagged Image File Format (TIFF).
2. A completed spreadsheet which is located on a 3½" computer disk found in the back of the City of Elk River Design Standards or otherwise provided by the City. This disk contains a spreadsheet, created in Microsoft Excel, which must be completed. It contains the following tab labels: Sanitary Sewer, Streets, Watermain, Valves & Hydrants, Storm Sewer, Trails & Sidewalks, Parcel, Lift Station and Pond. The directions for filling in these spreadsheets are shown below.

When the information is delivered to the City it must contain an overall map of the development that labels all applicable items with the I.D. Number assigned. I.D. Numbers should be assigned as detailed below. An 11" x 17" plan set needs to be submitted for review with the electronic data. Once approved, a 22" x 34" Mylar set of as-builts will be submitted. Two 22" x 34" paper copies of the as-builts are also required with the Mylar set for distribution in the City.

#### General Notes:

1. Sherburne County coordinates must be used.
2. A hard copy with all the points (structures) labeled with point number, name (MH24), and ID number. Also show linear piping with ID number.
3. A PNEZD comma delimited text file for all structures.
4. Comma delimited PNEZD file should have the same descriptors as the ID numbers as the corresponding ID numbers on the spreadsheet.
5. If a category in the spreadsheet does not apply, for instance they do not have any trails or sidewalks, put "Does Not Apply" in that category.

### B. SANITARY SEWER

#### 1. Sanitary Sewer Manholes

- The I.D. Number is the number that the manhole is labeled as on the set of plans.
- The Rim Elevation is the elevation of the top of the manhole to the nearest one hundredth of a foot.

- The Invert Elevation is the elevation of the bottom of the manhole to the nearest one hundredth of a foot.
- The Manhole Depth is the difference between the Rim and Invert Elevations to the nearest one tenth of a foot.
- The Type of Structure should be completed.
- The Year Built is what year the manhole was installed.
- The Owner is either the City or the name of the private property owner, if applicable.
- An x, y, z coordinate shall be provided based on as-built field information.

## 2. Sanitary Sewer Main

- The I.D. Number is the number of the manhole upstream and the manhole downstream, separated by a hyphen.
- The Upper Manhole I.D. is the I.D. of the upstream manhole.
- The Lower Manhole I.D. is the I.D. of the downstream manhole.
- The Upper Manhole Elevation is the elevation of the bottom of the pipe at the upstream manhole to the nearest one hundredth of a foot.
- The Lower Manhole Elevation is the elevation of the bottom of the pipe at the downstream manhole to the nearest one hundredth of a foot.
- The Pipe Length is the length of the sanitary sewer pipe between the upstream and downstream manholes to the nearest foot.
- The Pipe Size is the diameter (in inches) of the sanitary sewer pipe.
- The Pipe Type is that material the sanitary sewer pipe is constructed of.
- The Percent Grade is the slope of the sanitary sewer pipe between the two manholes.
- List if the line is gravity or forcemain.

## 3. Sanitary Sewer Services

The following information shall be provided for all sanitary sewer services installed.

- The plat name shall be noted.
- The block number shall be provided.
- The lot number shall be provided.
- An x, y, z coordinate on the service wye, the location the service pipe crosses the property line, and any bend locations shall be provided based on survey shots collected as part of the as-built field information.
- Point type – Indicate what type of location (wye, prop, bend) the coordinate refers to.



## C. STREETS

### 1. Streets

- The I.D. Number is determined by providing each street segment with a consecutive number. The street segments should be from centerline to centerline of intersecting streets.
- The Name is the name of the street. Street names should not be abbreviated.
- The Length is the length of the street to the nearest foot.
- The Width is the width of the street to the nearest tenth of a foot from back of curb to back of curb.
- Rural versus Urban – Indicate if the street section is rural (with ditches) or urban (with curb and gutter).
- Curb type – i.e. surmountable or B618.
- Surface Type – Gravel, bituminous or concrete.
- The Tonnage is the capacity (in tons) standard the street was built to.
- The Year Built is the year that the street was built.
- The ROW Width is the width (in feet) of the Right-of-Way section.
- Cul-de-sac - Yes or no.

## D. WATERMAIN

### 1. Watermain

- The I.D. Number is determined by providing each watermain segment with a consecutive number. The watermain segments should be divided at each pipe intersection or change in pipe size.
- The Length is the length of watermain for that segment to the nearest foot.
- The Size is the diameter of the watermain pipe in inches.
- The Material Type is what the watermain pipe is made of.
- The Year Built is the year that segment of watermain was installed.
- The Owner is either the City or the name of the private property owner if applicable.

### 2. Water Services

The following information shall be provided for all watermain services installed.

- The plat name shall be noted.
- The block number shall be provided.
- The lot number shall be provided.
- An x, y, z coordinate on the curb stop, the corporation stop, the location the service pipe crosses the property line, and any bends shall be provided based on survey shots collected as part of the as-built field information.

- Point type – Indicate what type of location (curb, corp, prop, bend) the coordinate refers to.

## E. WATERMAIN VALVES & HYDRANTS

### 1. Valves

- The I.D. Number is determined by providing each valve with a consecutive number.
- The Type is what type of valve it is, such as gate or butterfly.
- The Year Built is the year in which the valve was installed.
- The Size is the size of the valve in inches.
- An x, y, z coordinate shall be noted based on as-built field information gathered. This should be noted for all valves, including hydrant valves.

### 2. Hydrants

- The I.D. Number is determined by providing each hydrant with a consecutive number.
- The Year Built is the year in which the hydrant was installed.
- An x, y, z coordinate shall be noted for the top nut based on as-built field information.

## F. STORM SEWER

### 1. Storm Sewer Manholes

- The I.D. Number is the number that the manhole is labeled as on the set of plans.
- The Rim Elevation is the elevation of the top of the manhole to the nearest one hundredth of a foot.
- The Invert Elevation is the elevation of the bottom of the manhole to the nearest one hundredth of a foot.
- The Manhole Depth is the difference between the Rim and Invert Elevations of the manhole to the nearest one tenth of a foot.
- The Structure Type must be completed. i.e. manhole, catch basin, or flared end section.
- The Structure Size is the diameter of the manhole in inches.
- The Year Built is the year in which the manhole was installed.
- The Owner is either the City or the name of the private property owner, if applicable.
- An x, y, z coordinate shall be provided based on as-built field information.

## 2. Storm Sewer Main

- The I.D. Number is the number of the manhole upstream and the manhole downstream, separated by a hyphen.
- The Upper Manhole I.D. is the I.D. of the upstream manhole.
- The Lower Manhole I.D. is the I.D. of the downstream manhole.
- The Upper Manhole Elevation is the invert elevation of the upstream manhole to the nearest one hundredth of a foot.
- The Lower Manhole Elevation is the invert elevation of the downstream manhole to the nearest one hundredth of a foot.
- The Pipe Length is the length of the storm sewer pipe between the upstream and downstream manholes to the nearest foot.
- The Pipe Size is the diameter of the sanitary sewer pipe in inches.
- The Pipe Type is that material the sanitary sewer pipe is constructed of.
- The Percent Grade is the slope of the sanitary sewer pipe between the two manholes.

## G. TRAILS & SIDEWALKS

- The I.D. Number is determined by providing each trail/sidewalk segment with a consecutive number. The trail/sidewalk segments should be from centerline to centerline of intersecting streets, trails, or sidewalks.
- The Name is the name of the street the sidewalk/trail is on. Street names should not be abbreviated.
- The Classification should be sidewalk or trail.
- The Length is the length of the sidewalk/trail segment to the nearest foot.
- The Width is the width of the sidewalk/trail to the nearest foot.
- The Materials is what the sidewalk/trail is composed of.
- The Year Built is the year that the sidewalk/trail was installed.
- The boulevard width to the nearest foot from the back of curb to edge of trail/sidewalk.
- The Owner is either the City or the name of the private property owner if applicable.

## H. PARCEL

- The P.I.D. Number is the corresponding number for each lot.
- The Service Location - Sanitary should be the location of the sanitary sewer wye for the particular lot in question and must be noted as the distance along the sanitary main from the nearest downstream manhole.
- The Service Location Ties - Watermain must be labeled according to the ties noted on the final as-builts for the location of the curb box. Two ties are required

for each curb box location and should be to manholes, catch basins and hydrants. For each tie indicate the distance and the structure number of the object used.

#### I. LIFT STATION

- The I.D. Number is determined by providing each lift station with a consecutive number.
- Design capacity should be noted.
- Utilized capacity by the development.
- The size is the diameter in inches of the wet well.
- The Pumping Rates should be noted as gpm.
- Type of electrical service, i.e. single or three-phase power.
- The Date Installed is the exact date in which the lift station was installed.

#### J. POND

- The I.D. Number is determined by providing each pond with a consecutive number.
- The 100-year high water level must be noted.
- The normal water level shall be noted.
- The dead storage in acre-feet to the nearest hundredth of a foot.
- Depth of pond from normal water level to the bottom of the pond to the nearest tenth of a foot.

END OF SECTION GIS

# Elk River As-built Review Checklist

## Urban Plans

1. All sheets must show “record plan” with signature and date.
2. Cover sheet must list general contractor and utility contractor and developer.
3. Sanitary sewer and water main sheets must show ties to all services, curb stops, clean outs, and valves.
4. Sanitary sewer and water main sheets must show rim and invert elevations, size, slope, and length on each pipe, riser height, invert elevation of all sanitary services, and all service lengths.
5. All changes to fittings on water main must be shown.
6. All wye locations must be shown.
7. Storm sewer sheets must show rim and invert elevations, slope, size and length on each pipe
8. Any draintile must be shown.
9. Any variation from the typical section must be shown on the street construction sheets.

## Rural Plans

1. All sheets must show “record plan” with signature and date.
2. All sheets must list contractor and developer.
3. Sanitary collection sheets must show ties to all services to all curb stops, clean outs, and valves.
4. Storm sewer sheets must show rim and invert elevations, slope, size and length on each pipe.

(rev. 1/19/06)

## Development Plan Requirements

1. Lot and block numbers
2. Street Names
3. Storm sewer alignment showing manhole or catch basin locations with top and invert elevations
4. Storm sewer flared end sections with invert elevations
5. Centerline street elevations at 100 foot stations with high and low points identified
6. Centerline street percent grades
7. Cul-de-sac percent grades shown along curb
8. Building setback lines
9. House pads with house style and elevations
10. Front and rear lot corner elevations
11. Spot elevations at the rear of the house pads if the drainage is to be directed around the house pad to the front
12. Typical lot detail indicating where lot and house elevations are shown to
13. Legend with type of house styles and grade difference for garage floor to walkouts or lookouts.
14. Lot dimensions to the nearest foot
15. Typical street section
16. Drainage arrows at high points and at major grade changes
17. Existing and proposed easements
18. Emergency overflows should be labeled and shown with spot elevations and drainage arrows. Emergency overflows must be established for catch basins in the street and in rear yards. Areas along rear lot lines which are below emergency overflows elevations shall be designated as drainage easement on the final plat.
19. Wetland boundaries must be accurately shown
20. Development plan must be signed by a Registered Land Surveyor or Engineer

## SWPPP General Requirements

1. The Stormwater Pollution Prevention Plan (SWPPP) must be provided on 8½" x 11" paper. Any attachments or maps larger than 8½" x 11" must be folded to that size and included with the plan in an attached pocket.
2. No grading will be allowed until:
  - City has the SWPPP signed by the Contractor, Developer and Developer's Engineer
  - City has a copy of the NPDES permit that has been submitted to the MPCA. A copy of the executed permit must be forwarded to the City when returned to the Contractor/Developer.
  - Grading plan has been approved by the City Engineer
  - Perimeter erosion control has been installed and inspected
3. Weekly inspection forms are to be faxed to the City Erosion Inspection Staff by 8:00 a.m. Monday mornings. The fax number is 763-441-7724.

# SWPPP Project Specific Requirements

## **Storm Water Pollution Prevention Plan**

### **City of Elk River, Minnesota**

**Project**\_\_\_\_\_

**Contractor**\_\_\_\_\_

**Date**\_\_\_\_\_



<b>Table of Contents</b>	<b>Page</b>
1.0 Introduction.....	1
2.0 Identification of Potential Storm Water Contaminants.....	2
3.0 Storm Water Management Controls .....	3
4.0 Best Management Practices .....	4
5.0 Recommended Sequence of Activities .....	6
6.0 Maintenance/Inspection Procedures .....	7
7.0 Sediment and Erosion Control Options .....	8
8.0 Site Specific Data (to be completed by applicant) .....	10

## **Appendix**

- A. Standard Plates
- B. Mn/DOT Seed Mixes
- C. Stormwater Pollution Prevention Plan Review Checklist
- D. Construction Erosion and Sediment Control Checklist

## **1.0 Introduction**

The purpose of the Elk River Storm Water Pollution Prevention Plan (SWPPP) is to provide methods for contractors to reduce soil erosion and to minimize pollutants in storm water during construction.

This SWPPP will include the following:

- Describe the practices that will be implemented to control erosion and the release of pollutants in storm water
- Provide an implementation schedule
- Describe the final stabilization design to minimize erosion and prevent storm water impacts after construction is complete

## 2.0 Identification of Potential Storm Water Contaminants

The purpose of this section is to identify pollutants that could impact storm water during construction. The possible pollutants that could be present in the storm water are listed in the Table 1.

**Table 1. Potential Storm Water Contaminants**

<b>Material</b>	<b>Physical Description</b>	<b>Storm Water Pollutant(s)</b>	<b>Location to be Used</b>	<b>Process for Containment</b>
<b>Asphalt</b>	Black Solid	Oil, petroleum distillates	Street	Excess material will be removed from site
<b>Concrete</b>	White Solid	Limestone, sand	Sidewalks, Driveways, Curb and Gutter	Designated wash areas or complete removal from site
<b>Hydraulic Oil/ Fluids</b>	Brown oily petroleum	Mineral oil	Random leaks	Oil absorbing diapers, trained personnel
<b>Gasoline</b>	Colorless	Petroleum, hydrocarbon, benzene	Machinery used in construction	Oil absorbing diapers, trained personnel
<b>Antifreeze</b>	Clear/ green/ yellow	Ethylene glycol, propylene glycol	Machinery used in construction	Trained personnel
<b>Wastewater from Construction</b>	Equipment washing	Water, soil, oil and grease	Not allowed within project limits	
<b>Cleaning Solvents</b>	Colorless, blue, or yellow-green liquid	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates	No cleaning equipment in project limits, Trained applicators for concrete cleaning and prep work	Tarps
<b>Temporary Fertilizer</b>	Liquid or solid grains	Nitrogen, phosphorous, potassium, chlorides	Rapid stabilization areas, topsoil berms, stockpiles	Managed application, certified installers, quick cover plant materials
<b>Permanent Fertilizer</b>	Liquid or solid grains	Nitrogen, phosphorous, potassium, chlorides	Newly seeded areas	Organic base, slow release forms only
<b>Sediment From Erosion</b>	Solid Particles	Soil, sediment	Project limits	Rapid stabilization measures, 3 day maximum exposure limit, 7 day total exposure limit

### 3.0 Storm Water Management Controls

This section will identify the types of temporary and permanent erosion and sediment controls that will be used during construction. The controls will provide soil stabilization for disturbed areas and structural controls to divert runoff and remove sediment.

#### A. *Temporary Erosion Control*

Before grading at locations in which runoff can move offsite, the contractor will place silt fence along the perimeter of the disturbed areas. Vegetation in areas not needed for construction shall be preserved and must be protected with fencing. Table 2 outlines the allowable amount of time a site can remain without stabilization when not being worked on.

**Table 2. Slope Restoration Schedule**

Type of Slope	Time an area can remain open when not actively being worked in
Steeper than 3:1	7 days
10:1 to 3:1	14 days
Flatter than 10:1	21 days

In the case where construction activity temporarily ceases for the amount of time listed in the table above, stockpiles and any disturbed portions of the site will be stabilized with temporary seed and mulch. The temporary seed shall be Mn/DOT Mixture 150 (2003 Mn/DOT Seeding Manual).

All ditches shall be protected during construction using biorolls or rock check dams. All storm sewer inlets shall be protected with catch basin sediment barriers. The erosion control devices should be maintained by removing built up sediment after storm events.

#### B. *Permanent Erosion Control*

Erosion control blanket (Mn/DOT 3885) will be used to stabilize and protect soil from raindrop impact erosion, increase infiltration and decrease soil compaction. Erosion control blanket will be used on steep slopes, and where vegetation is slow to establish.

Permanent seeding and sodding will also be used once construction activity is complete.

## 4.0 Best Management Practices

### *A. Site Wide Control Measures*

To prevent soil from washing into storm sewer inlets and storm water ponds, for both the undisturbed and disturbed areas of the site, the following BMPs will be implemented onsite:

- Construction sequencing will allow areas to be undisturbed until necessary for construction.
- The smallest vegetated area possible will be disturbed during construction.
- After final grading is complete, the entire site where permanent vegetation is shown in the plan will be seeded or sodded. Seed and fertilizer will be installed in a continuous operation. Grades 3:1 or steeper will have erosion control blanket installed over the seeding.
- Topsoil stockpiles will be stabilized with temporary seed and mulch no later than 3 days from the last construction activities that formed the stockpiles. A double row of silt fence will be installed around the bottom of the stockpile. Mn/DOT Rapid Stabilization Method 3 will be used to stabilize the topsoil. The Rapid Stabilization method includes quick temporary seed and quick release fertilizer.
- Dust control will be in the form of water.
- A weekly written erosion control report will be required. It will discuss, among other items listed in the Construction Specification, how related work to offsite drainage will be incorporated into the weekly erosion plan schedule, how the SWPPP is functioning and any necessary changes that need to be discussed. The City of Elk River will not approve any requests for reduction in the letter of credit if the contractor fails to perform their responsibilities.

### *B. Construction Practices to Minimize Storm Water Contamination*

- A stabilized construction entrance will be constructed to help reduce vehicle tracking of sediments. Streets leaving the construction site entrance will be swept to remove any excess mud, dirt or rock tracked from the site. The sweeping will be completed on an as needed basis and dependant on the weather.
- All non-hazardous waste materials will be collected and stored in a secure dumpster or another approved containment method at the end of each day.
- All trash and construction debris from the site will be deposited in the dumpster.
- No construction materials will be buried or burned onsite.
- A licensed sanitary waste management contractor will collect all sanitary waste from the portable units at a rate necessary to maintain designated function.
- Fertilizers will be stored in a covered shed and partially used bags will be transferred to a sealable bin to prevent spills.

- All vehicles left onsite will be monitored for leaks to reduce the chance of contamination.
- Petroleum products will be stored in tightly sealed, properly labeled containers. An effort will be made to store only enough products required to complete the job.
- Products will be kept in their original containers with the original manufacturer's label. Manufacturers' recommendations for proper use and disposal will be followed.
- Concrete trucks will only be allowed to wash out or discharge surplus concrete or water at designated wash out areas. No washing discharge is permitted to curbs or catch basins.
- Materials and equipment necessary for spill cleanup will be kept in the temporary material storage trailer onsite.
- All spills will be cleaned immediately upon discovery. Spills large enough to reach the storm conveyance system will be reported to the MPCA State Duty Officer at 1-800-422-0798.
- The Contractor shall comply with applicable State and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other government laws, rules and regulations, the more restrictive laws, rules or regulations shall govern.

## **5.0 Recommended Sequence of Activities**

The following is a sequence of the major activities on the project:

1. Discuss erosion and sediment control and implementation schedule at the preconstruction meeting.
2. Silt fence and other down gradient protection shall be installed before any clearing and grading begins.
3. The stabilized construction site entrance shall be constructed.
4. Temporary and permanent sedimentation basins are installed in advance of any land disturbing operations within the respective drainage area.
5. Clearing and grading will not occur in an area until it is necessary for construction to proceed.
6. Complete required removals.
7. Complete grading and stabilize disturbed areas as soon as possible according to the SWPPP.
8. Install utilities (waterman, sanitary sewer, storm sewer).
9. Complete road construction (curb and gutter, nonwear bituminous).
10. Convert to permanent storm water and sediment control features. Boulevard restoration should include sod, seed and blanket, or silt fence behind the back of curb.
11. After vegetation is established, remove temporary erosion control.

## 6.0 Maintenance/Inspection Procedures

### A. Inspections

The following inspection and maintenance practices are the responsibility of the owner and contractor and will be used to maintain erosion and sediment controls:

- All erosion control measures shall be inspected at least once per week and within 24 hours of all storm events greater than 0.5 inches. All measures will be maintained in good working order.
- Built up sediment shall be removed from silt fence within 24 hours when it has reached 1/3 the height of the fence.
- Temporary and permanent seeding and/or planting will be inspected for bare spots and washouts.
- The stabilized construction entrance will be inspected for sediment tracked on the road.
- The outlets of all culverts are intact and functioning as designed.
- Temporary sediment basins shall be cleared when sediment reaches 1/2 the outlet's height or 1/2 the basin's storage volume within 72 hours of discovery.
- A maintenance inspection report will be completed by the Contractor and submitted to the Engineer for each inspection.

### B. Additional Contractor Responsibilities/Employee Training

- The Contractor shall designate individuals responsible for inspection, maintenance and repair activities, and filling out the inspection and maintenance reports.
- The Contractor shall train the designated personnel on practices necessary for keeping the erosion and sediment controls used onsite in good working order.
- An employee-training program will be developed and implemented to educate the prime contractor's employees about the requirements of the SWPPP.
- All subcontractors, except the seeding subcontractor, present on the job must have at least one member who can document certification in Construction Site Management. The seeding contractor must submit documentation that at least one member of each team present on the job is certified as Inspector/Installer.

### C. Additional Contractor Responsibilities/Employee Training

- Maintenance of sod includes replacement and watering, which must be done by the installer until the final site restoration is approved.
- Maintenance of installed erosion control blanket shall last until the final site restoration is approved, including watering and restoration when substituted for sod.
- Maintenance includes correction or repair needed to keep the erosion and sediment control device functioning properly.



## 7.0 Sediment and Erosion Control Options

<u>Item</u>	<u>Sediment and Erosion Control Options</u>
Entrance	Rock entrance to minimize tracking dirt onto streets (Detail 1)
Silt fence	Install for perimeter control (Mn/DOT 3886) (Detail 2)
Ponds	See requirements below for the appropriate type of pond
Flared End Section	Install trash guard (Detail 3) Install riprap after the structure is placed (Detail 4)
Catch Basins	Options before curb and gutter are installed: <ol style="list-style-type: none"> <li>1. Catch Basin Sediment Barrier- where heavy flows are expected and where ponding is not an issue. Inlet protection for drain inlets shall consist of a steel plate or a heavy gauge ½" x ½" wire mesh placed over the inlet grate and covered by a minimum thickness of 12" of ¾" – 1½" clear rock. (Detail 5)</li> <li>2. Silt-fence inlet sediment barrier- for slopes less than 3% (Detail 6)</li> <li>3. Slotted riser- where heavy flows are expected and when ponding is not an issue (Detail 7)</li> </ol>
Catch Basins	Options after curb and gutter are installed: <ol style="list-style-type: none"> <li>1. Inlet protection for catch basins after curb and gutter has been placed shall consist of Road Drain Curb and Gutter Model inlet protection as manufactured by Wimco, LLC of Shakopee, Minnesota.</li> <li>2. Rock filled fiber sock (Detail 8)</li> <li>3. Placement of filter fabric under catch basin inlet casting will <b>NOT</b> be allowed as a sediment control measure</li> </ol>
Ditches	Biorolls or rock check dams (Detail 10)
Boulevard	Sod or seed and fiber blanket (Mn/DOT 3878, 3876, 3885)
Slopes	Follow Table 2 for time requirement
Stockpiles	Seed or mulch after three days and install a double row of silt fence at the bottom

Seeding/ Sodding                      After final grading for the area is complete and as specified in Table 2

Dust Control                              Have water truck available for use

**Requirements for Erosion and Sediment Control Items**

Entrance:                                  6-inch aggregate base entrance with 50-foot minimum length

Silt fence:                                Install on the contour and flow should not bypass the ends  
Bury the silt fence in an 8 inch trench  
Overlap at least 6 inches and fold at the joints  
Drainage area should be less than 1/4 acre per 100 feet of fence  
Fence should be able to withstand a 10-year peak storm event  
Make sure depth of water retained does not exceed 2 feet

Wet Ponds:                                Do not seed the pond bottom  
Seed mix 310 at 82 lbs/acre planted 10 feet up the slope on either side of the normal water level  
Mix 350 at 84.5 lbs/acre to be planted from the 310 mix to the top of pond  
Fertilize 23-0-30 at 200 lbs/acre  
Mulch type 3 at 2 tons/acre plus disc anchoring  
Use one blanket width (6 to 8 feet at the normal water level; emergency spillway; and areas of concentrated in-flow)

Dry Infiltration Ponds:                Mix 310 at 82 lbs/acre to be planted in the pond bottom and up 3 feet from the bottom  
Mix 350 at 84.5 lbs/acre to be planted from the 310 to the top of pond  
Fertilize 10-10-20 at 400 lbs/acre  
Mulch type 3 at 2 tons/acre plus disc anchoring  
Use blanket for areas of concentrated flow, such as pond corners or areas where ditches carry water into the pond  
When used for pretreatment, the area must be staked and compaction is prohibited

Rock check dams:                      Maximum drainage area should be less than 5 acres  
Rock should be placed on nonwoven geotextile fabric foundation  
The top elevation of the lower dam should match the toe of the upper dam

Seeding:                                    Mn/DOT mix 150 for temporary stabilization  
Refer to the seed mix table in the appendix for seed mix types for other applications

Sodding:                                    Should meet Mn/DOT specification 3878 or equivalent  
After sod is laid, it should be rolled  
Sod should be watered after it is rolled and until it is established

## 8.0 Site Specific Data (to be completed by applicant)

1. Person responsible for Inspections and Implementation of the SWPPP

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Phone Number: \_\_\_\_\_

2. Describe long term erosion control responsibilities. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. List surface waters within ½ mile that receives discharge. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Any special measures implemented for discharge to impaired waters with TMDL. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. Describe temporary sediment basins and their design as implemented in this project. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. Describe permanent treatment of water quality volume.

Wet sediment basins \_\_\_\_\_

Infiltration basins \_\_\_\_\_

Alternative methods \_\_\_\_\_

7. Describe record retention planned as it related to:

Permits \_\_\_\_\_

Inspection documentation \_\_\_\_\_

Maintenance agreements \_\_\_\_\_

Design calculations \_\_\_\_\_

(Include additional pages if necessary.)

### **Storm Water Pollution Prevention Plan Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

#### **Storm Water Pollution Prevention Plan Designer**

Signature \_\_\_\_\_

Date \_\_\_\_\_

Printed Name \_\_\_\_\_

License No. \_\_\_\_\_

#### **Owner**

Signature \_\_\_\_\_

Date \_\_\_\_\_

#### **Erosion Control Supervisor**

Signature \_\_\_\_\_

Date \_\_\_\_\_

#### **Contractor**

Signature \_\_\_\_\_

Date \_\_\_\_\_

## Items Needed to Start Utility Construction

1. Site grading is completed
2. Approved construction plan
3. Approved construction specifications
4. Hold preconstruction meeting
5. SWPPP approved and signed
6. NPDES permit for grading
7. MPCA permit
8. MDOH water permit
9. County access permit (if necessary)
10. Erosion control is in place
11. Developer's agreement has been executed
12. Permit fees paid to City
13. Surety posted with City
14. Cost of Public Improvements provided to City broken down into 4 categories
  - a. Sanitary sewer
  - b. Watermain
  - c. Storm sewer
  - d. Street construction



## **NEW RESIDENTIAL CONSTRUCTION SUBMITTAL REQUIREMENTS**

- 2 Building Plans
- 2 Certificate of Surveys preferably no bigger than 11 x 17
- HVAC Specifications (Center Point Energy Calcs)
- Energy Code/ MN Check
- Septic Design (if septic system is required)
- Foundation and Floor Blocking Detail
- Window Installation Detail (Pan Flashing)
- Frozen Ground Erosion Control Agreement – (when applicable)

### **ADDENDUM**

Please read the following carefully:

A building Permit **will not be issued** until the construction site has passed an erosion control inspection.

It is the **builder's responsibility** to install and maintain the erosion control measures properly.



**Effective starting 6/14/07**

## **MEMORANDUM**

**TO: City of Elk River Builders and Developers**

**FROM: Rebecca Haug, Environmental Administrator  
John Anderson, Engineer**

**SUBJECT: Erosion Protection Maintenance**

---

Soil and sediment eroding from construction sites contribute significantly to water pollution in Minnesota. The City of Elk River was required by the Environmental Protection Agency and the Minnesota Pollution Control Agency to apply for a storm-water permit. This permit requires the City to enforce storm-water rules and regulations. A large part of the City's storm-water problems stems from new building sites where erosion control is not maintained.

The City of Elk River Building, Engineering and Environmental departments are jointly responsible for the administration of the Erosion Control Policy related to building permits. Builders should be aware of the following process related building permits:

1. Builder is required to install perimeter erosion control around the entire excavation prior to the building department issuing the building permit. If your work is being done during frozen ground conditions, a Frozen Ground Condition Agreement must be signed.
2. Builder is required to install a minimum 10 foot length of rock entrance and stock pile enough rock for rock drive to extend to the garage or 30 feet after backfilling. The rock entrance should be installed to a minimum with a 12 foot width or 30' maximum driveway opening.
3. The Builder is responsible for calling the building department to schedule an inspection of the perimeter control and rock entrance.
4. The City will inspect the installation and if it passes, the permit will be ready to be picked up once the plan review is complete. Should the inspection fail the builder

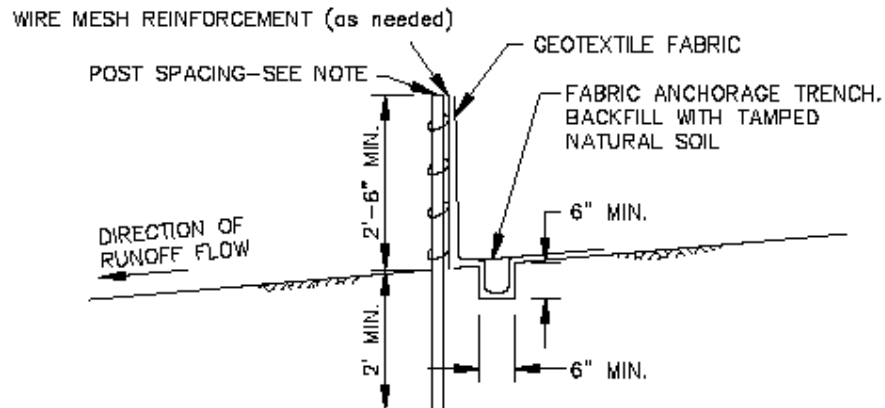


will be called with corrective actions. Builder can schedule subsequent reinspections directly with the inspector.

5. After the waterproofing/foundation inspection the builder is responsible for scheduling an after backfill erosion control inspection and must complete this within a week. If the site fails this inspection, the inspector will contact the builder with corrective actions. The builder is responsible for contacting the inspector to schedule a reinspection once repairs have been made.
6. Through out the building process, if the building department becomes aware of erosion control issues, a site inspection will be scheduled for the erosion control inspector and the builder will be contacted with corrective actions. The builder will be given 24 hours to make the corrections. Should the site erosion control not be corrected the building department will discontinue scheduled building inspections until the erosion control has been corrected.
7. At the completion of the building work the builder must schedule a final erosion control inspection. The inspector is looking for the site and adjacent areas to be cleaned up (no trash, sediment, dirt, stock piles, etc.) and final turf to be 70% established, silt fence and other BMPs removed when the turf is 70% established. If the turf is not established the Final erosion control must be in place and passed. The building department will hold an escrow for completion of the lawn until the lawn meets the city code of ordinances. Silt fence may not be removed until the turf has been at least 70% established.

**IT IS VERY IMPORTANT THAT YOU INFORM ALL YOUR CONTRACTORS OF THESE REQUIREMENTS SO THEY DO NOT DELAY YOUR JOB.**

If you have any questions, please call me at 763.635.1000. Thank you in advance for your cooperation.



**NOTE:**

1. SILT FENCES CONSTRUCTED WITH SUPPORT FENCES, POSTS SHALL BE SPACED AT 10' OR LESS, AND DRIVEN AT LEAST 2' INTO THE GROUND.
2. SILT FENCES CONSTRUCTED WITHOUT SUPPORT FENCES, POST SHALL BE SPACED AT 4' OR LESS, AND DRIVEN AT LEAST 3' INTO THE GROUND.

**SILT FENCE DETAIL**

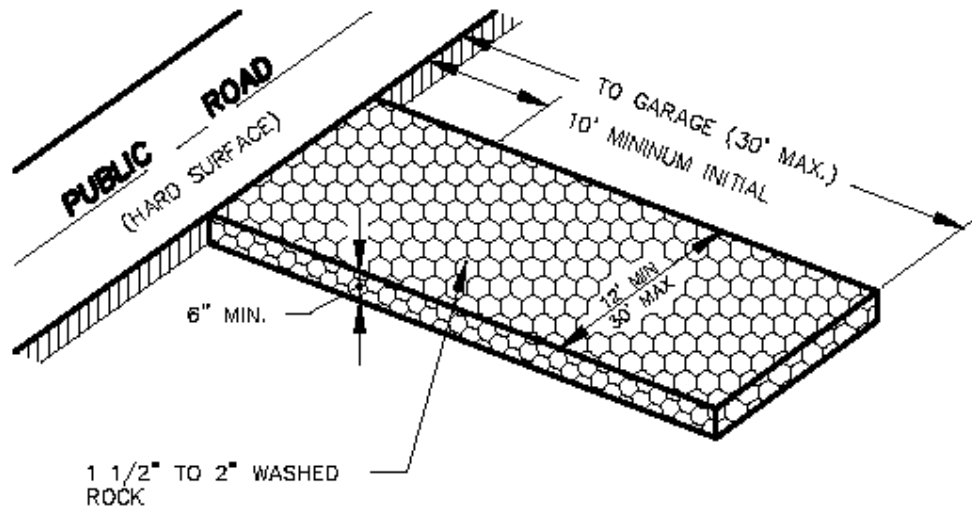
REV: 7/2007



**STANDARD SILT FENCE**

STANDARD  
PLATE  
NO.

**2009**



**NOTE:**

ROCK ENTRANCE NEEDS TO BE INPLACE (MIN 10' IN LENGTH) WITH ENOUGH MATERIAL ON HAND AT SITE TO COMPLETE TO GARAGE AFTER BACKFILL IN ORDER TO PASS INITIAL INSPECTION.

REV: 7/2007



**ROCK CONSTRUCTION ENTRANCE  
BUILDING PERMIT**

STANDARD  
PLATE  
NO.

**2015**